

# JOURNAL

OF THE

## AMERICAN VETERINARY MEDICAL ASSOCIATION

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*AVMA Report, ad page 12; Coming Meetings, ad page 24*

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Volume CXVIII FEBRUARY 1950

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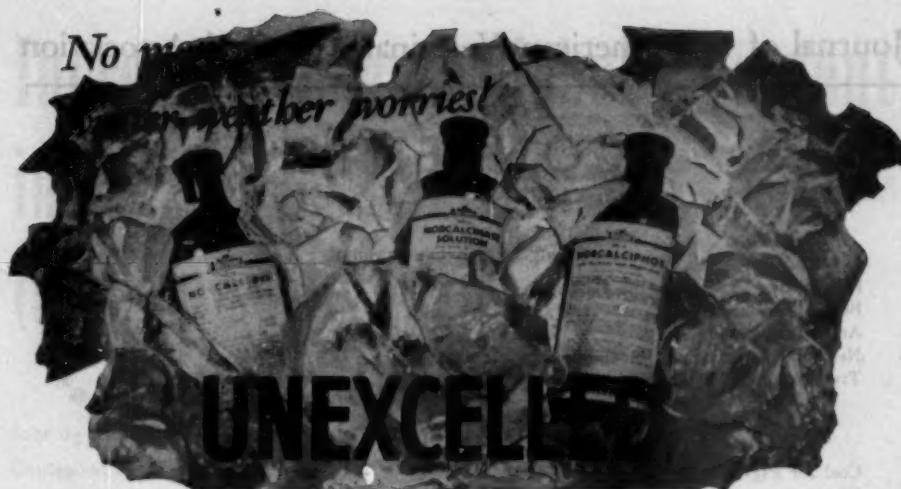
Instituted within the framework of the Medical Department of the Army, the Corps has been developed into a weighty factor to the good health as well as the successful operation of military personnel and by that token an impressive element in national security.

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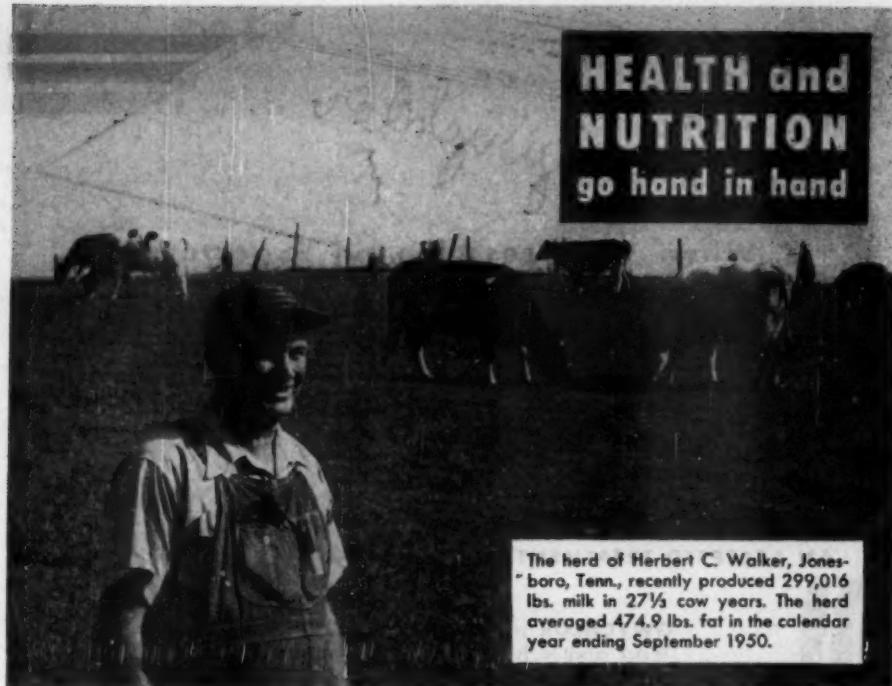
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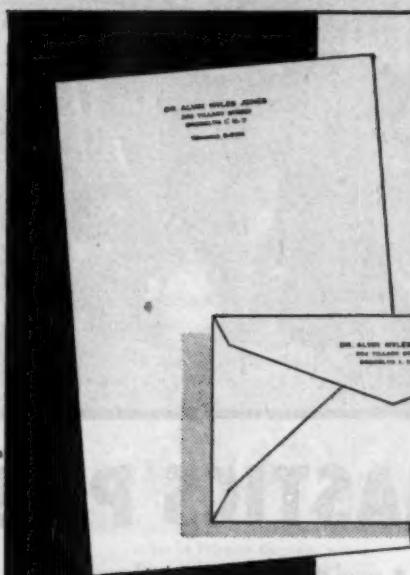
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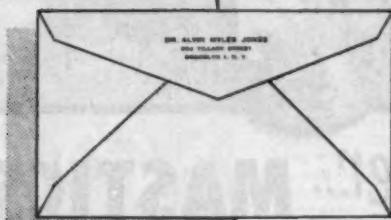
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No. 8

## DOG RESEARCH NEWS

### Puppies Need Rough Surface

Puppies usually try their legs about the third week. A piece of burlap or other rough surface tacked



Litter of Friskies Kennels, where Friskies Formula was Developed

to the floor will help them get a better footing. The third week is a milestone for another reason, for it is after this week that the puppies should be started on Friskies. Tests on many generations of dogs of almost every type prove that the normal puppy will grow and thrive on a diet of Friskies alone.

### Selling a Dog

If you know your dog, you know his worth. The first fellow who comes along may not agree, but that doesn't matter. Set your price fairly and stay with it.

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# AVMA ★ Report

## Veterinary Medical Activities

◆ President W. M. Coffee spent a busy month attending meetings of the veterinary medical associations of Oklahoma (Jan. 8-9); Indiana (10-12); Tennessee (15-16); Mississippi (19-20); and Minnesota (Jan. 31-Feb. 2). He also spoke to student groups at Oklahoma A. & M., and the University of Minnesota.

★ ★ ★

◆ The Board of Governors (Drs. W. G. Brock, Executive Board chairman, W. M. Coffee, president, and John R. Wells, president-elect) met at the AVMA office on Jan. 6 and 7, 1951.

★ ★ ★

◆ Assistant Executive Secretary C. D. Van Houweling attended the meetings of the Ohio V.M.A. at Columbus on Jan. 3-5, 1951; and the Wisconsin V.M.A. at Milwaukee on Jan. 10-11, 1951.

★ ★ ★

◆ The second registration of veterinarians with Selective Service, which included all veterinarians under 50 years of age, as called for in Public Law 779, took place on Jan. 15, 1951. (See News Section for details.)

★ ★ ★

◆ Editor-in-Chief R. C. Klussendorf spoke at the conferences for veterinarians at the University of Pennsylvania (Jan. 2-3) and at Cornell (Jan. 3-5); at association meetings in Maine (Jan. 10), Ontario (10-12), and Iowa (17-19); as well as to student groups at Ithaca, Guelph, and Ames.

★ ★ ★

◆ Milwaukee's Local Committee on Arrangements for the Eighty-Eighth Annual Meeting of the AVMA moved into "high gear" on Jan. 9, 1951, when Dr. C. D. Van Houweling, assistant executive secretary, and Mrs. L. R. Richardson, third vice-president of the Women's Auxiliary, met with them and reviewed the progress to date and the work to be done in the next few months.

★ ★ ★

◆ The series of 2 in. by 2 in. slides available to members who are called upon to speak to groups in their communities continue to grow. Any member wishing to illustrate a talk on veterinary medicine or its application need only indicate the scope of the presentation, and a series of appropriate slides will be forwarded to him.

★ ★ ★

◆ The Executive Board, at the Miami Beach convention, authorized the establishment of a Canadian depository at the Bank of Montreal, Toronto, for the convenience of Canadian members of the AVMA. Members may now remit their membership and subscription fees without applying for a permit. Personal checks will be honored, which eliminates the purchasing of money orders and allowing for the prevailing exchange rate.

★ ★ ★

◆ Assistant Executive Secretary C. D. Van Houweling and Dr. Asa Winter, veterinary consultant to the National Security Resources Board, represented the AVMA at a meeting of the state advisory committees to Selective Service in Washington, D.C., on January 11-13, 1951 (see News Section).

★ ★ ★

◆ The first of a series of items about AVMA research fellows, who are engaged in projects under grants from the AVMA Research Fund, will be found in the News Section of this issue. Others will follow in succeeding issues.

★ ★ ★

◆ *How to Save the AVMA Money and Do Yourself a Favor.*—When you move, advise the central office (600 S. Michigan Ave., Chicago 5, Ill.) at once, so that you will not miss receiving the JOURNAL. The post office *will not forward* the JOURNAL — instead, it is returned to us and we have to re-mail it in a new envelope with new postage to you — if we have your new address.

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*Eye of horse. Severe corneal vascularization associated with acute iridocyclitis. Note many engorged and branched blood vessels in the cornea. (This photograph with caption has been reproduced by permission of the American Journal of Veterinary Research.)*

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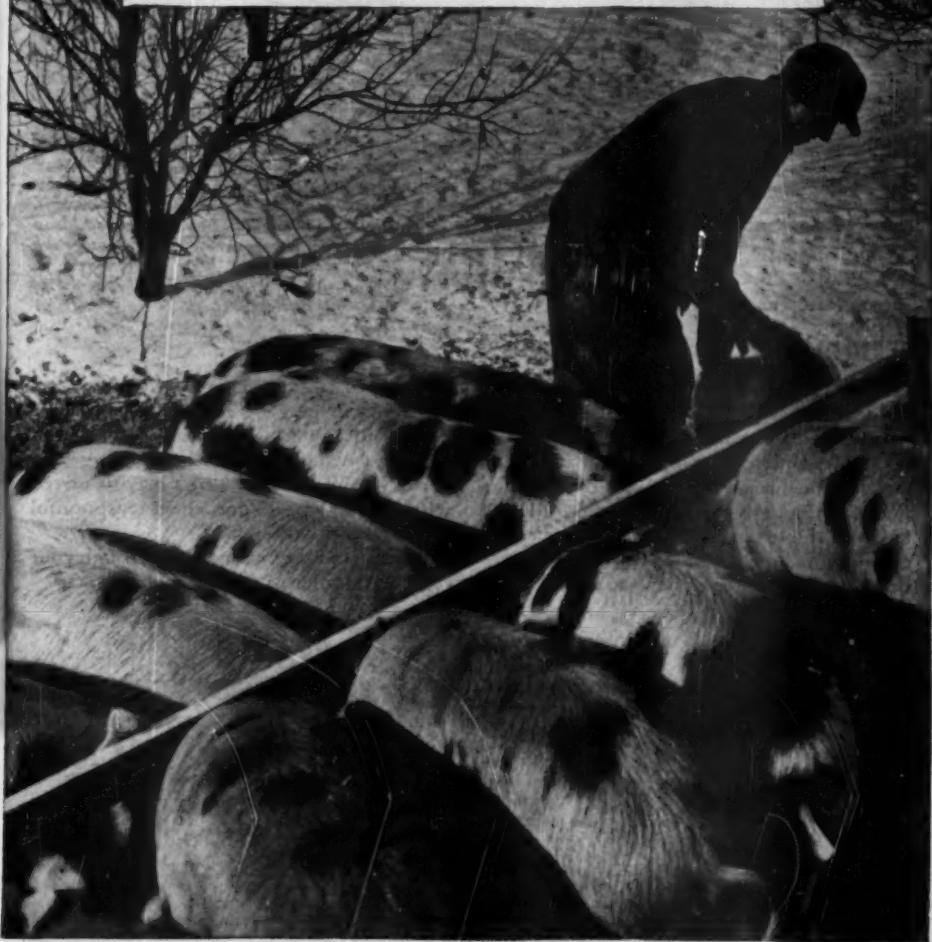
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# Journal of the American Veterinary Medical Association

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## Experimental Production of Urinary Calculi

C. C. HIGGINS, M.D.

Cleveland, Ohio

NUMEROUS clinical observations lead one to infer that a definite relationship exists between the formation of urinary calculi and the absence of certain essentials in the diet.

First, regions in which calculi are unusually prevalent, have been reported in many countries. In fact, stones are so frequently observed in some communities that the people themselves have designated them as "stone areas."

Second, following World War I, von Illes in Budapest noted a pronounced increase in the incidence of the calculous disease in certain parts of Europe. On more careful observation, he concluded that the invading armies, frequently lacking an adequate commissariat, were forced to derive their food from the vicinity in which they were located. Therefore, the people in these regions subsisted on a poorly balanced diet for an extended period.

Third, Denos and Minet, in the last century in France and in England, stated that calculous disease was one of infancy.

However, with dietary progress, calculous disease is no longer one of infancy but, rather, one of adult life at the present time in England and in France.

In experimental work dealing with dietary problems, extreme care must be exercised in the preparation of the diet or a misinterpretation of results will occur.

Presented before the Section on Small Animals, Eighty-Sixth Annual Meeting of the American Veterinary Medical Association, Detroit, Mich., July 11-14, 1949.

Dr. Higgins is head, Department of Urology, Cleveland Clinic, Cleveland, Ohio.

### VITAMIN A DEFICIENCY

The first part of our experiment deals with vitamin A deficiency. Therefore, the food must have the necessary caloric requirements. It must be palatable, contain the necessary proteins, fats, carbohydrates, minerals, and vitamins, except for the deficiency in vitamin A.

If it is true that calculous disease is associated with a deficiency in the diet, as observed in our clinical patients, then we should be able to substantiate and confirm these findings in the experimental laboratory.

We have now used more than 1,000 white rats in an attempt to ascertain the relationship between vitamin A deficiency and the incidence of stone formation.

In the use of vitamin A, it is necessary to carry the rats along for an extended period on what we might call subclinical vitamin A deficiency.

One of the first manifestations of vitamin A deficiency is xerophthalmia. At that time, if we do not add vitamin A to the diet, the rats develop intercurrent infection, and the mortality is extremely high. Therefore, we do not let them progress to this degree of deficiency.

Obviously, in this work, it is necessary to have controls and to observe the diet very carefully.

In the accompanying map of the world (fig. 1), the shaded parts represent the stone areas: India, China, the valley of the Volga, Russia, Siam, the coast of Westmoreland and Derbyshire, southern Florida

and southern California in the United States, and along the border of Mexico.

These areas have all been confirmed and are reported in the literature.

The problem arises as to the incidence of calculus formation in the white rat. For thirty days, the incidence of stone formation is practically negligible. At thirty to sixty days, 14 per cent develop stones in the bladder; in 180 to 250 days, 88 per cent develop stones.

The chemical constituents of the stones that are formed in the white rat consist of phosphates, with traces of carbonates. When we decrease the phosphorus in the diet, in relation to the calcium, a complete reversal in the chemistry of the stones occurs, and they are composed of carbonates with traces of phosphates.

Infection in the urinary tract is a constant finding in white rats that have been maintained on a deficiency diet over an extended period. At the end of sixty days, 7 per cent have an infection in the bladder; at 250 days, the termination of this experiment, 70 per cent were infected.

The kidney stones form at a later period. For more than sixty days, there is no evidence of kidney stones. From sixty to ninety days, 14 per cent develop kidney stones; in 180 to 250 days, 41 per cent develop kidney stones. These have the same chemical composition as the stones that are formed in the bladder.

For sixty days there is no evidence of kidney infection. Then at sixty to ninety days, 4.7 per cent and, at the completion of the experiment, 35.0 per cent have infection, usually mixed in type, *Streptococcus* and *Staphylococcus*.

For ninety days, there was no evidence of stones in the biliary ducts. Then, however, calculi began to form and, at the end of 250 days, stones were present in 23 per cent of the biliary ducts.

Is infection instrumental in the production of the stones or is the disease itself the causative factor? At no time in the course of our experiment did the incidence of bladder infection equal the incidence of bladder calculi. More animals had calculi than had any evidence of infection.

The same was true in regard to the upper urinary tract; in 120 days, less than 5 per cent had infection in the kidney, while more than 28 per cent had stones in the kidney.

In our work with rats, we have drawn the following conclusions: (1) Albino rats fed on a vitamin A deficient diet develop renal and bladder calculi; (2) these rats all develop a persistent alkaline urine; (3) a keratinization of the epithelium occurs in ten weeks; (4) the addition of vitamin A to the diet in early cases shifts the pH of the urine back to acid, and the stones undergo dissolution; (5) genito-urinary tract infection is frequent.

Are these experimental observations confirmed by clinical observations? Wilson and Du Bois recently reported that infants had died of various diseases in which there was an associated vitamin A deficiency. In these infants, they found keratinization of the epithelium of the bronchi of the lung. Similar observations have been reported by Black and Wolbach in 7 children dying of various diseases in which there was a co-existing vitamin A deficiency. In this group, also, there was a keratinization of the epithelium of the urinary tract.

Why do we produce phosphate and carbonate stones in the white rat? Carbonates and phosphates are crystalloids which are precipitated in urine only when the pH is on the alkaline side; therefore, obviously, they would be phosphate and carbonate. Why does the white rat not develop a uric acid stone? For two reasons: The reaction of the urine is alkaline, and 80 per cent of the circulating purines in the white rat are changed to allantoin which is extremely soluble and, obviously, would not be a chemical constituent of the stone.

One objection to this work could be raised in that the stones are produced in a species which is phylogenetically remote from the human being. Therefore, we also used other animals.

Dogs were placed on a vitamin A deficient diet, and kidney and bladder stones were removed from them after nine to twelve months. The chemical constituents of these stones were somewhat different. They were ammonium-magnesium-phosphate stones; again, a stone that is precipitated in alkaline urine. We have, therefore, produced experimentally in the rat and in the dog the type of stones we see in our clinical cases that are formed in an alkaline urine.

Can we therefore produce stones that are precipitated in an acid urine? Benedict and Behre have demonstrated that the

purebred Dalmatian dog is the only one which excretes large amounts of uric acid in the urine. In fact, most of our clinical knowledge of uric acid metabolism is derived from studies on the Dalmatian dog. I therefore purchased 3 Dalmatian puppies and in our metabolic laboratory we were unable to demonstrate excretion of uric acid in the urine. We could not confirm the work of Benedict and Behre.

I reviewed their work again carefully and, knowing what extremely careful investigators they were, I sent the dogs back to the owner of the kennel from which I purchased them. I said, "These are not purebred Dalmatian dogs. Please refund my money."

He wrote me a letter saying, "I am enclosing your check but how did you find out?"

I would like to stress that point, because in experimental work it is not difficult to make errors. If the work of uric acid metabolism had not been performed identically by Benedict and Behre, I might have written an article criticizing their experimental work when, of course, they were not

at fault, and their results have since been confirmed.

The Dalmatian dogs which I later purchased had normal uric acid excretion in the urine. They were placed on a high purine, vitamin A deficient diet to increase the excretion of uric acid in the urine, and we were able to develop uric acid stones.

Emmett and Peacock have demonstrated that chickens maintained on vitamin A deficient diets developed plaques of urates on the heart and on the spleen.

Later, Hart and Cruikshank demonstrated accumulations of urates in the kidneys of chickens. Therefore, a group of chickens was placed on a vitamin A deficient diet, but we could not produce vitamin A deficiency. One day when observing the birds, I noticed the normal chickens were scratching yellow corn over into the pen of the chickens on the deficient diet. This was enough to prevent development of vitamin A deficiency.

The blood uric acid of chicks at the time the experiment was started was 5.1 mg./100 cc. of blood. At the end of three months, the blood uric acid was 14 mg./100

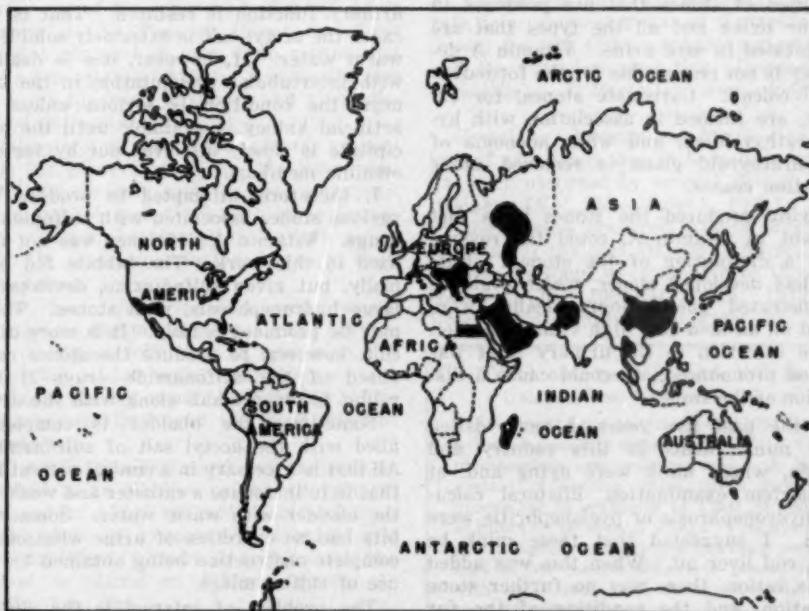


Fig. 1.—Map showing "stone areas" of the world.

cc. of blood. Urated and uric acid stones, as precipitated into acid urine, completely filled the ureters.

Can we produce other types of stones?

Cystinuria is the disease of intermediate protein metabolism. Normally, the sulfur in the ration is excreted in the urine as a sulfate. We were fortunate in securing a cystinuric dog, which we placed on a high purine, vitamin A deficiency diet to increase the excretion of the cystine. We were able to produce stones composed of cystines.

There is one other type of stone, the oxalate stone. Oxalates differ from the phosphates (alkaline urine) or the uric acid (acid urine). Oxalates are excreted in urine with a wide range of pH (acid to alkaline). In order to increase the excretion of oxalates in the urine, to produce an oxaluria, the dogs were fed oxamide.

By placing dogs on a normal diet, except for the deficiency in vitamin A, and also feeding them oxamide, we were able to produce stones composed of oxalate.

By similar dietary procedures, we have produced, in experimental animals, all of the types of stones that are produced in alkaline urine and all the types that are precipitated in acid urine. Vitamin A deficiency is not responsible for the formation of all calculi. Carbonate stones, for example, are formed in association with hyperparathyroidism and when adenoma of the parathyroid gland is removed, stone formation ceases.

Having produced the stones by a diet deficient in vitamin A, could the reverse cause a dissolution of the stones? Rats that had developed stones, which could be demonstrated roentgenographically, were placed on an acid-ash, high vitamin A diet. If the infection in the urinary tract was not too pronounced, we could cause a dissolution of the stones.

In the past five years, I have visited three mink farms in this country and Canada, where mink were dying and, at postmortem examination, bilateral calculous hydronephrosis or pyelonephritis were found. I suggested that these mink be given cod liver oil. When this was added to the ration, there was no further stone formation, and the condition of the fur improved.

#### OTHER CAUSES OF STONE FORMATION

Vitamin A deficiency is not responsible for the formation of all stones. The promiscuous use of sulfonamide drugs is to be condemned. I make that statement because, clinically, we observe patients that develop a complete urinary obstruction following the administration of sulfonamide drugs. This is especially true if an alkaline substance, such as sodium bicarbonate, is not given along with the sulfonamides. The reason for this is, of course, that there is a precipitation of the acetyl salt of sulfonamides. This may occur in dogs and rabbits. It can cause a complete obstruction, and elevation of temperature. The cause of the trouble may be one of two things: (1) intertubular precipitation of the acetyl salt of sulfonamides in the renal parenchyma; (2) a complete obstruction of the ureteropelvic juncture and the ureter due to the accumulation of the acetyl salt in the pelvis and in the ureters. The latter type is not significant. If a patient develops a suppression of urine following the administration of sulfonamides, ureteral catheters are passed to the urinary pelvis, they are thoroughly lavaged with warm water, and urinary function is restored. That is because the acetyl salt is extremely soluble in warm water. If, however, one is dealing with intertubular precipitation in the kidneys, the condition is serious unless an artificial kidney is available until the precipitate is slowly dissolved out by various alkaline mediums.

I, therefore, attempted to produce the various stones associated with sulfonamide drugs. Vitamin A deficiency was not utilized in this work. The rabbits fed normally, but given sulfadiazine, developed a large hydronephrosis, with stones. These may be produced readily. It is more difficult, however, to produce the stones composed of the sulfonamide drugs if the rabbit is given alkali along with the drug.

Sometimes the bladder is completely filled with the acetyl salt of sulfonamide. All that is necessary in a clinical patient like that is to introduce a catheter and wash out the bladder with warm water. Some rabbits had no excretion of urine whatsoever, complete obstruction being obtained by the use of sulfonamides.

The problem of interest is the clinical relationship to this experimental work. We

believe that people in this country do have vitamin A deficiency; that is substantiated by the work of Jeans and others, even in agricultural communities. A person may have adequate vitamin A in the diet but be unable to absorb it.

One of our most pernicious habits in this country is taking mineral oil. If one is taking mineral oil daily, one can be certain that he has a deficiency in vitamin A, because vitamin A is a fat-soluble vitamin. That is one reason why most physicians now advocate that mineral oil therapy be discontinued or given with caution.

If we can produce a dissolution of stones in the experimental animal, can we do the same in human patients? There have been about 121 cases of cystinuria reported in the literature. I have observed 11 such cases.

Cystine stones form in an acid urine. If the urine is alkaline, the cystine is held in complete solution. On a high vitamin A-alkaline-ash diet the stones break up. First, there are areas of less dense calcification. Later, the stone disappears completely and the kidney returns to normal. The same result can be secured in the cystinuric dog by the use of the same type of diet. After keeping a boy free of stones for three years, I placed him on a high purine diet and a low vitamin A diet. A stone the size of a marble was produced and then dissolved out again.

Vitamin A is not the sole factor responsible for stone formation. We know that metabolic diseases such as gout and cystinuria may be associated with stone formation. A complete investigation will ascertain the causative factor in each individual case.

The chief role of the diet in clinical application at the present time is the prevention of stones following an operation. A stone that is destroying renal parenchyma obviously can not remain indefinitely. The chemical constituents of the stone must be ascertained.

If it is a phosphate and carbonate stone (formed in an alkaline urine), the patient is placed on a high vitamin A-acid-ash diet. If the stone is composed of cystine, uric acid, xanthine (formed in acid urine), the patient is placed on a high vitamin A-alkaline-ash diet.

There is nothing deep or intricate about

this. It is just ordinary chemistry applied to our clinical patients.

What are the results in prevention of stones following an operation? Prior to the time that I used the diet, our incidence of recurrent stone was 16.9 per cent. That is, more than 16 per cent of the patients developed a stone again on that side. I might say that statistics go as high as 52 per cent.

Since using the diet in conjunction with other procedures of the past, we have reduced the incidence of recurrent stones to approximately 2.9 per cent. Of the 2.9 per cent, a few have infection that we can not control with the drugs available at the present time, and we can be relatively certain that a few of the patients do not follow the diet.

Therefore, in conclusion, the clinical observations are substantiated by the work in the experimental laboratory, and the work in the experimental laboratory is reaffirmed by our work among our patients.

**Tick Control in Kennels.**—A concentrate containing 10 per cent of piperonyl butoxide and 1 per cent of pyrethrins, used at a 1:10 dilution as a surface spray in kennels, is a practical means of controlling the brown dog tick (*Rhipicephalus sanguineus*) and the American dog tick (*Dermacentor variabilis*).—*J. Parasitol.*, Aug., 1950.

**Hemolytic Anemia in Pigs.**—Complete loss of pig litters due to hemolytic anemia has been observed by several British practitioners (*Vet. Rec.*, July 1, 1950). Most of the deaths occurred within thirty-six hours after the pigs started to nurse. Post-mortem findings were similar to those reported in the *JOURNAL* (Aug., 1949) by Bruner and co-workers in America.

#### AVMA Membership Cards Will Be Delayed Due to New System

After you have remitted your 1951 dues, it may be several weeks before your 1951 membership card reaches you. A new system of issuing these cards requires processing in multiples of 1,000, or more, at intervals of several weeks. This system was adopted to meet the growing workload of the central office—so please bear with us if your card does not come as soon as expected.

## Health Services and Special Weapons for Defense

### A Book Review\*

To be most effective in a civil defense program, the health services must be fully coördinated with other civil defense services. Civil defense must be primarily a civilian responsibility because military forces will be engaged in problems of their own.

Since both modern warfare and medical techniques are in a state of constant development, any civil defense plan must be subject to periodic review and possible revision in order to keep it geared to changing conditions.

#### BIOLOGIC WARFARE

Bioologic warfare can be directed against human beings, animals, food, and industrial crops. There is no need for panic because nature has directed bioologic warfare against man, his crops, and his animals for thousands of years and methods for combating this type of damage have been worked out through generations. Much the same basic plan can be used if bioologic warfare is instigated by an enemy.

The possible use of this type of warfare against our food-producing animals is an important subject for civil defense planning, because the disease agents which are to be used against animals are available. Such agents must be characterized by: a high degree of resistance to heat, sunlight, and drying; adaptable to rapid dissemination; have a high infectiveness; and produce a high initial mortality or a lasting debilitating effect; or be an agent foreign to the country against which neither immunity nor protective treatment is available on a widespread basis.

Of the diseases considered in this class, foot-and-mouth disease, rinderpest, fowl-pest, and Newcastle disease are among the more common.

It is also important that all veterinarians interest themselves in programs and courses of training in atomic and chemical warfare, particularly concerning the detection and identification of exotic diseases.

In each instance possible, veterinarians

should coöperate with local medical committees, not only from the standpoint of medical first aid work but for proper integration of the utilization of animal hospitals as emergency first aid stations, and to make the most effective use of all professional services available to the community.

#### BIOLOGIC WARFARE AGAINST ANIMALS

Dangerous foreign diseases of animals have not been permitted to gain a foothold in this country and the measures used in this connection will be highly effective in the event of bioologic warfare, because an effective force has been developed to fight animal diseases in the field. The coöperating agencies in this fight are BAI veterinarians, state-employed veterinarians, and private practitioners. By using the specialized abilities of members of each of these groups, there need be no panic concerning bioologic warfare in animals. In the past, outbreaks of diseases have been stamped out by quarantine, inspection, slaughter, and burial of infected and exposed animals, followed by thorough cleaning and disinfection of contaminated premises. This has been the most economical method of eradication because it is quick and sure. In some other countries, and in some diseases, vaccination is still the foundation for control, but eradication through this means is slow.

It is prudent to develop a plan which will cope with the worst possible disaster because lesser gradations of disaster will then respond more promptly and will cause less suffering to man and his animals.

#### VETERINARY SERVICES

Veterinary services should be organized to provide national, state, and local protection for food animals and other essential activities. Although the planning will be largely on a national and state basis, the actual work will be done on a local basis. Therefore, a group of veterinarians organized and deputized to handle conditions affecting food animals, zoo animals, and small animals in any critical target area is basic. There should be another

\*Health Services and Special Weapons Defense. Executive Office of the President, Federal Civil Defense Administration. U.S. Government Printing Office, Washington, D.C., Dec., 1950.

group in charge of local meat and poultry control and related duties, and finally there should be some method of reporting to national authorities from each of the preceding groups.

In general, the protection against biologic warfare will be on broad lines and will follow four fields of activity: (a) detection and reporting; (b) diagnosis; (c) quarantine, control, and eradication; (d) research. Of these, immediate detection and reporting is the cornerstone, and these can be achieved only when all veterinarians have been alerted to the possibilities and are ready to act promptly.

In atomic and chemical warfare, large quantities of meat may be exposed not only to atomic but also to chemical and other types of weapons. Then, too, there is danger from exposure to the elements, breakdown of refrigeration, and contamination from broken waste lines and debris of all kinds.

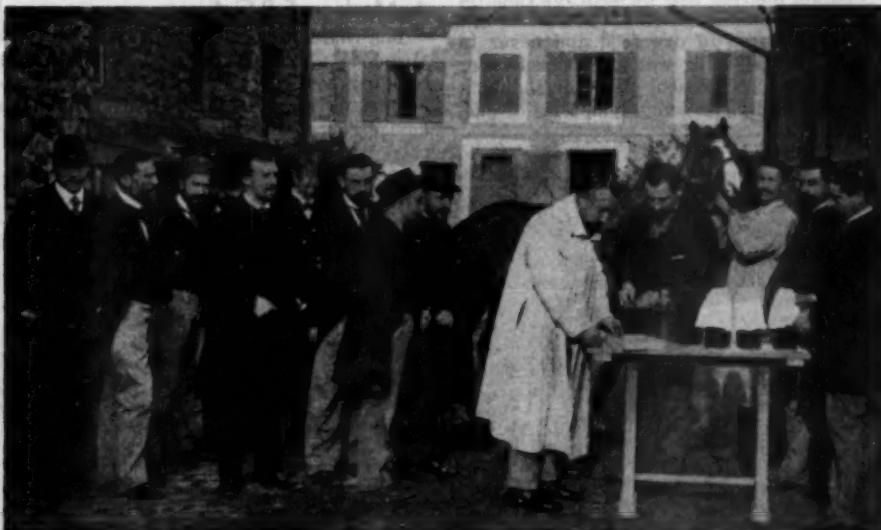
Related activities of a less general nature refer to the handling of zoo animals, protection against rabies, and evacuation and care of small animals. For the prevention of rabies, it is recommended that all small animals be immunized in the planning stages of the program.

**Brucellosis Eradication.**—The test and slaughter method alone will free 50 per cent of our herds of brucellosis on a single test and 75 per cent on two tests. The problem herds which cause so much difficulty constitute less than 10 per cent of all herds.—*B. T. Simms, D.V.M., Washington, D. C.*

### Triumphs of the Bacteriologists

Because of the nature of their calling and the innate habit of forgetting the part their predecessors have played in the development of medical science, veterinarians from time to time have to hazard the risk of seeming to be objectionably egotistical. That veterinarians were top figures in the production of the first antitoxins—diphtheria and tetanus—in the early 1890's is likely to be overlooked by successive generations but for such reminders as this picture (below) which clearly portrays the first drawing of antitoxic blood from a hyperimmunized animal—a horse "hypered" against the Klebs-Loeffler bacillus (*Corynebacterium diphtheriae*).

All knowledge of antitoxins stems from this historic event, and by it the high mortality from throat-choking diphtheria was reduced to a negligible quantity.



—From *Summer Issue of the Bourgeois Lyon, 1949*

Fig. 1.—In the foreground in white gown is Prof. Edward Nocard of the Alfort faculty, and to his left is Prof. Emile Roux of the Pasteur Institute of Paris.

### Pest Control Conference

State and federal workers gathered for a western regional livestock pest control conference at Salt Lake City, Utah, Sept. 19-20, 1950. Representatives attended from 14 states and Washington, D. C.

A committee reported that rotenone is still the only toxicant recommended for the destruction of cattle grubs.

For louse control, DDT, rotenone, methoxychlor, TDE, and piperonyl butoxide are effective and reasonably safe, while lindane, toxaphene, and chlordan must be used with caution.

Fly control is best achieved through the use of such insecticides as lindane, methoxychlor, and pyrethrum, along with sanitation, particularly the use of screens and prompt and frequent removal of manure. Methoxychlor is the most efficient and economical residual spray for dairy cattle for hornfly control.

Horseflies may be reduced in number by spraying with DDT, TDE, chlordan, and toxaphene, but the residual effect is not long.

Gastrointestinal nematodes that infest cattle, horses, sheep, and goats can be removed to best advantage by use of phenothiazine.

Sodium fluoride may be used for removal of ascarids from hogs, but it should always be administered in dry feed and never in garbage, slops, milk, wet feed, capsules, or in solution as a drench. Neither should it be given to pigs showing symptoms of gas-

troenteritis or to pregnant or lactating sows.

Sheep tapeworms (*Moniezia*) may be removed by administering lead arsenate ( $\frac{1}{2}$  Gm. for lambs and 1 Gm. for animals weighing 60 lb. or over) in gelatin capsules. No fasting or purgation is required.

Toxicity of insecticides is not clearly understood, and a committee on this subject recommended that investigations be continued and intensified in seven directions: (1) method of application, (2) health and nutritive state of the animal, (3) concentration of insecticide, (4) age of animal, (5) sex of animal, (6) species and breed of animal, and (7) number of treatments.

### Absorption and Persistence of Antrycide

Antrycide, the powerful trypanocide, which was highly rated as a possible exterminator of the tsetse fly, attains high concentrations in the liver and kidney. It is excreted in the urine in detectable amounts for several weeks after administration.—*Brit. J. Pharmacol. and Chemotherap.*, Sept., 1950.

### A Modern S.P.C.A.

The Ulster County S.P.C.A. recently constructed a new and modern memorial building at Kingston, N. Y. Because veterinarians are frequently called upon to advise concerning the construction of sim-

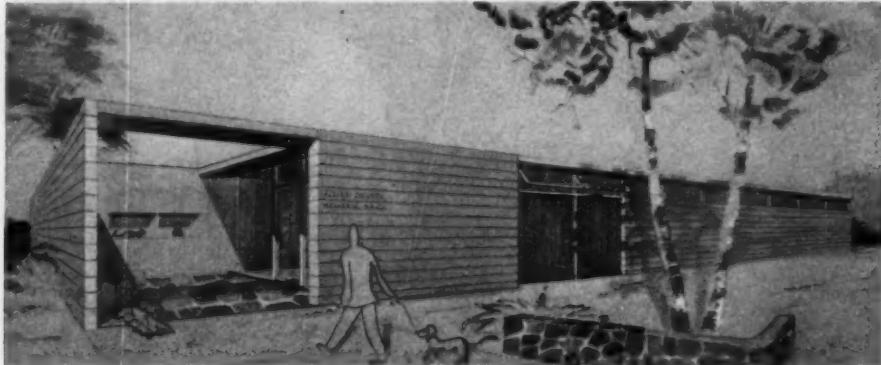


Fig. 1.—Architect's drawing of the exterior of the Ulster County (N.Y.) S.P.C.A.

ilar buildings and because the basic plan, modified, may lend itself to the construction of a veterinary hospital, the accompanying illustrations are presented.

The basic building is small and inexpensive, but has individual character and will stand out in any community. The construction is of concrete slab on grade with cinder block painted with a solution of portland cement. The siding is applied vertically, the roof is built up, and all flooring materials are cement finish, asphalt tile, or flagstone. The arrangement of cages and pens for dogs with outside runs and gang-runs is worthy of consideration for hospital as well as S.P.C.A. use.

The small court, which creates the entrance, contains a memorial wall listing the names of contributors and a showcase for animals up for adoption. This court could be incorporated into the building in order to provide extra space for examining rooms, surgery, and similar adjuncts which

would be needed if the buildings were to be used as an animal hospital.

This building was designed by Slater & Chait, 15 Park Avenue, New York 16, N. Y., and they stress the fact that no stock plan will prove suitable for all locations, but that individual variations are called for to meet the needs of a particular building and site upon which it is to be constructed.

**Boils in Mink.**—Boils, which are common in mink, are caused by small foreign objects which pierce the tissues of the mouth and result in inflammation. The bones in ground fish or horse meat frequently are the cause, as are the awns of "tickle grass" used as bedding in the nests.

The common symptom is swelling around the head. The usual treatment is to open the boils and wash with a sulfonamide and penicillin.—*G. R. Hartsough, D.V.M., in Am. Fur Breed., Oct., 1950: 15.*

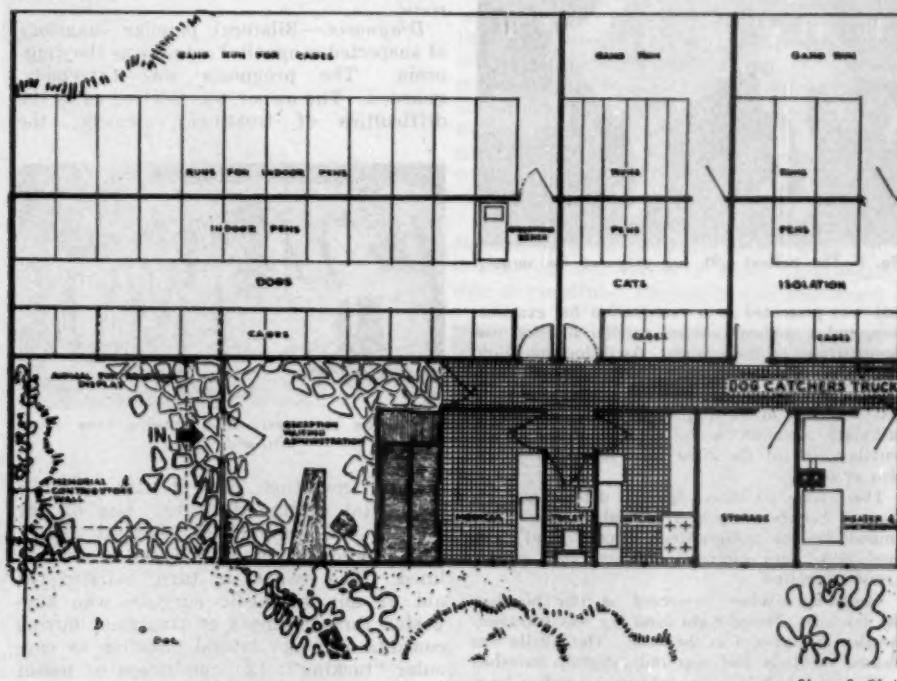


Fig. 2—Floor plan of the Ulster County (N.Y.) S.P.C.A.

# SURGERY & OBSTETRICS

AND PROBLEMS OF BREEDING

## Metallic Fixation of the Patella

KENNETH B. HAAS, D.V.M., and ANTHONY MILAKNIS, D.V.M.

Chicago, Illinois

On May 15, 1950, a 9-month-old male Collie was presented at our hospital with the following history.

**History.**—Three months previously, the animal had fallen down a flight of stairs but suffered no injury. Two months before, he had attempted to hurdle a wire fence, caught himself on the uppermost strand and fell, sustaining an injury to the right hind leg. Shortly thereafter, the ani-

tion. It was easily replaced and spontaneously relaxed, however. The involvement was such that the dog attempted locomotion by either an extended gait of a stiltlike nature, or by a flexed gait consisting of short "bunny hops." Although 9 months old, the animal still squatted to urinate, had no sexual urgencies, and was considered "hypogenital" by the hospital staff.

**Radiograms.**—Left for further examination, x-rays were taken. There was no evidence of coxal disease but definite bilateral supramedial patellar luxations were present. The left tibia showed a shadiness on its upper anterior surface below the patellar joint, but this was not considered diagnostic.

**Diagnosis.**—Bilateral patellar luxations of suspected congenital origin was the diagnosis. The prognosis was extremely guarded. The owner was advised as to the difficulties of treatment, namely: the



Fig. 1.—The patient with leg prepared for surgery.

mal was presented to a veterinarian for examination, and a tendency toward patellar luxation was demonstrated to the owners. As dislocation could not be easily effected, the displacement only temporary, and retention excellent, counterirritation was suggested in the form of an iodine and methyl salicylate ointment, to be applied to the lateral patellar area of the right hind leg. Serum was also given.

There were no known familial defects, nor was there a history of rickets or malnutrition. The animal became progressively worse until both hind legs were ultimately affected and motion greatly impaired.

**Symptoms.**—When presented at our hospital, the initially affected right hind leg was extremely swollen and painful at the knee. The patella was located medially and was only slightly movable.

The left hind leg also evidenced patellar luxa-



Fig. 2.—The instruments used, showing bone chuck, bits, and screws.

chronic condition present, the possible congenital origin, the large size of the animal, the complicated bilateral aspect. The procedures to be followed were outlined. The owner, in turn, enlisted the aid of an orthopedic surgeon who suggested three methods of treatment during consultation: (1) lateral plication or capsular "tucking"; (2) quadriceps or tensor fascia anastomosis; (3) femorotibial ankylosis or "fusing" to make a stiff joint.

From the Christensen Animal Hospital, Chicago.

Since the owner forbade patellectomy, the specialist could see no contraindication in our plan to secure the patella by metallic fixation.

**Materials and Instruments.**—The following were used in addition to the usual shrouding and entrance and exit instruments: retractors; bone chuck and bit; 00 chromic catgut suture; kangaroo tendon; nylon suture; Sherman-type, 1½ in. by ½ in., coarse-thread surgical screw; and a modified Thomas splint.

**Anesthesia.**—Morphine (¼ gr.) was followed by pentobarbital sodium intravenously to effect.

**Preparation.**—The routine was clipping, washing, sterilization of right patellar area.

**Procedure.**—A 4-in. incision was made at the stifle joint about 1 in. lateral from the normal patellar position. The fascia was bluntly dissected with scissors, and the leg flexed to bring the joint to delivery.



Fig. 3—Lateral view right stifle showing patellar luxation.

The patella was identified but could not be moved to a normal position because of shortened medial ligaments. These were severed and the normal position resumed. The medial trochlear lip was not well developed.

The patella was drilled centrally, using the bone chuck and bit, and the drilling continued into the distal end of the femur. The Sherman-type surgical screw was then screwed into this channel by use of the chuck, but not tightly against the distal femur. The patella was now firmly affixed to the distal femoral surface, and the leg thereby forcibly extended.

The lateral patellar structures were extremely flaccid and, correspondingly, an elliptical excision of these tissues was made parallel to the line of the leg. The cut edges were then approximated with 00 chromic catgut suture, which served to tense the area.

A strip of deep fascia, dissected from the underlying lateral muscle, was sutured to the lateral patellar surface with kangaroo tendon. The muscular area exposed by this procedure was then re-approximated with 00 chromic catgut suture. This formidable regimen of surgery completed, tissues were re-approximated with 00 chromic catgut suture subcutaneously and nylon cutaneously. A modified Thomas splint was applied in routine manner for further stabilization.

**After-Care.**—Following the operation, 300,000 units of penicillin in oil were administered and recovery from anesthesia was uneventful. Penicillin was continued



Fig. 4—Lateral and dorsoventral views of left stifle showing patellar luxation.

intramuscularly for six days, the temperature remaining normal at the end of that period. At no time was the temperature over 103.2 F. A dressing and stockinet was applied the second day to abate licking. There was no infection and sutures were removed, in part, on the tenth day. On the thirteenth day, all sutures were removed and the cast taken off. Serum was administered at proper intervals throughout the animal's hospitalization.

#### RESULTS

On the thirteenth day after surgery, the unoperated left patella was found to be strongly in place, probably as a result of the animal shifting its weight and placing this leg more centrally. The left stifle was counterirritated daily from this point forward.

The right patella could be felt to crepitate upon its screw. Needless to say it, too, was strongly in place.



Fig. 5—Lateral view of right stifle showing Sherman screw in position.

On the twenty-first day after operation, the animal was again anesthetized, using pentothal sodium intravenously to effect. The skin and underlying adhesive tissue was incised directly over the patella, the screw isolated and removed. Penicillin was given for three days following this simple operation. A lateral fistula developed along the old line of incision, and this drained serum for a few days as a result of buried suture materials. This healed uneventfully after several pieces of catgut were removed from its lumen. Fourteen days following this surgery, the animal was released. There was great passive flexibility of all right hind leg joints and but little active flexibility by the dog's own effort. Directions to the owner included (1) complete rest in a large box; (2) alcohol rubs and counterirritation to the right hind leg; (3) passive exercise on the owner's part to the right leg.

Thirteen days later, the animal was re-entered. He showed good active flexion and partial use of the right leg, complete patellar relaxation and only partial use of the left. Dislocation became evident when the center of gravity again shifted to the right, and the formerly unusable right leg came into greater use, putting less weight on the left. Eight days of hospitalization, with complete rest and counterirritation, brought the animal to no better condition and the owner to the realization that euthanasia could be a friend indeed.

#### DISCUSSION

This condition was considered congenital because (1) it is doubtful that traumatic dislocations would become chronic without anatomic irregularity; (2) there was no trauma to the left leg, only "sympathetic" lameness following injury to the right; (3) the predisposition of shallow trochlear lips, joint abnormality, and capsular laxity were probably already present, only awaiting precipitation by slight trauma and added stress; it was doubtful if the medial meniscus could be intact following such abnormality; it was possibly ruptured; (4) counterirritation, in initial stages, is very often effective in uncomplicated cases, but was to no avail here; (5) many animals sustain their weight on one hind leg without dislocation of the opposite patella. Predisposition was evident.

The "hypogenitalism" was probably unassociated with the prime condition, although gonadal and articular immaturity may go hand in hand.



Fig. 6—The patient, postoperatively, without cast.

It is interesting to note that the pain seemed to be the index that ruled whether the animal walked in an extended or flexed position. The animal could walk either way at will, despite the persistent bilateral luxation, with little "locking."

Medial luxation is the rule in nontraumatic cases in dogs. Traumatic causes can, and do, produce lateral luxation.

Bilateral patellectomy might have been a more efficient procedure, but the owner was of strong will on this point, and made it known that other procedures should be tried.

Kangaroo tendon was used because of its strength and durability.

Extensive thickenings overlying the kneecap made the screw more difficult to locate and remove than anticipated. A surgical wire attached to the screw-head at time of placement, and drawn out through the skin, would have eliminated this difficulty. Note that the screw was freely crepitating before surgery, and easily removed once found, demonstrating the inherent tendency for metallic fixation to free itself. A stiff joint did not result from screwing in this case. Movement was excellent afterward.

It was the plan of the surgeons to operate the more severely affected leg, then the other at a later date. Euthanasia intervened.

#### CONCLUSION

This case stands upon its own merits and demerits and has not been presented

as a symposium on patellar disease and therapy or as a "tried and true cure," or even as an efficient method of handling such a case. It merely presents some thoughts relating to an isolated case, interesting in itself.

- 1) Bilateral patellar luxations do occur, probably of congenital origin.
- 2) Joint pathology is involved in these cases; the prognosis is uncertain.
- 3) Metallic fixation of the patella as an adjunct to other measures may have application in therapy; it evidently does not produce a stiff joint.
- 4) The technique of attaching a draw-wire to a buried screw is often good practice in heavily indurated areas.
- 5) Physiologic mechanics play a major role in these cases.

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### Surgical Technique for Correcting Ear Trims

C. C. BURNS, D.V.M.

Tallahassee, Florida

This surgical technique was developed to correct ear trims which failed to stand properly. This procedure is recommended whenever the ears fail to stand, regardless of age of the dog. It should not accompany a routine ear trim but should be used only when the ears have already been trimmed and have failed to assume their correct standing posture.

#### MATERIALS NEEDED

1) Whalebone filliform bougies (fig. 2) can be obtained from any human medical instrument supply house in varying sizes, small to large. They may also be obtained from veterinary supply houses, listed as whalebone tomcat catheters or probes.

2) The stainless steel channel probes (fig. 2) can be made by cutting a 6-in. length of an infant-size bone pin (1/16 to 1/18 in. diameter). This also may be ob-

Dr. Burns is now located in Thomasville, Ga.

tained from a human medical supply house.

3) The sterile sulfathiazole powder atomizer is obtained from a human medical supply house.

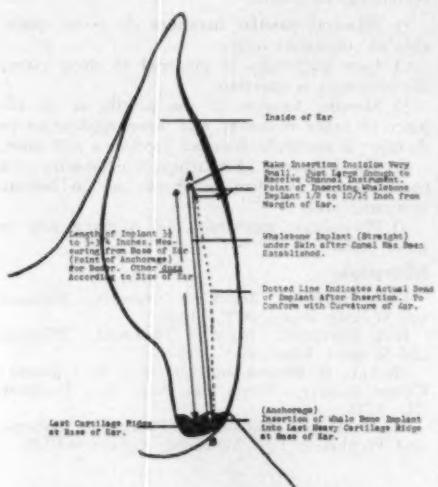
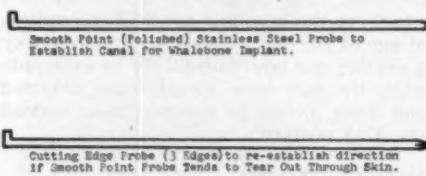


Fig. 1—Burns' method for correcting posture of ear (whalebone implant between skin and cartilage of inside of ear).

4) The probe holder can be purchased at any hardware store. The smallest obtainable is the best.



**Whalebone Milliform Bougie (Tom Cat Catheter) Cut in Half.**  
Cut to Length After Bone Has Been Cut in Half.  
One Whale Whalebone Bougie Makes 2 Whalebone Implants.  
Order from Instrument Supply House - Jen-Sal Etc.  
NOTE: Whalebone Bougies Come in Assorted Sizes. Get Assortment of From Small to Large.

Fig. 2—These channel probes (top) are infant bone pins obtained from any medical supply house (human), sizes 1/16 in. and 1/16 in. At the bottom is a whalebone milliform bougie (tomcat catheter) cut in half.

#### SURGICAL PROCEDURE

1) Make a very small incision (just large enough to receive channel probe) with scalpel. Make incision 3/4 in. to 3 1/4 in. from point B (anchorage) (fig. 1), after the ear has been cleaned and sterilized.

2) Insert 1/16-in. *sterile* blunt channel probe and force between skin and cartilage in straight line to anchorage at point B. **Caution:** It is important not to allow the probe to break the skin as this may cause a fistulous tract during healing. Proceed slowly; work carefully; observe closely. If the blunt probe seems to be cutting its way out through the skin, change to a 3-

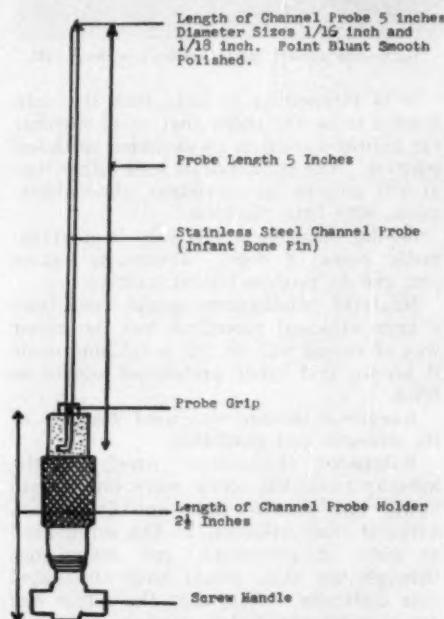


Fig. 3—Channel probe and holder.

edge, cutting-point probe and reestablish direction nearer the cartilage.

3) After a canal has been established between points A and B (fig. 1), insert sterile whalebone implant. Boil this along with the instruments, and, just before inserting into channel, spray with fine covering of surgical sulfathiazole powder from atomizer. Push implant firmly into cartilage ridge anchorage, then cut remaining

portion of whalebone implant even with incision (insertion point A).

4) Do not suture point A incision. Make incision small enough so that it will not be necessary to suture.

### An Improvement on Flynn's Sutureless Spaying Operation

J. A. SOLIS, D.V.M.; J. B. ARAÑEZ, D.V.M.; and F. MANALILI

*Quezon City, Philippine Islands*

Essentially, the sutureless method of spaying developed by Flynn (1925) consists of first making a skin incision about 1 to 1½ in. long on the mid-ventral abdominal wall. This done, a pair of tissue forceps is introduced into the wound, and the skin is pushed away to one side about ½ in. from the median plane. By moving the point of the forceps up and down and using steady inward pressure, the ventral

on the tips of which the female gonads are located. Following the removal of the ovaries, no suturing is necessary, in as much as the skin incision is about ½ in. out of line with the abdominal perforation. Adhesive tape, about 2 in. wide, passed completely around the body of the patient for the purpose of supporting and closing the abdominal wounds, takes the place of a bandage.

In our experience with this method of spaying, using cats instead of dogs, we observed satisfactory results similar to those achieved by Flynn. These are: (1) The operation takes much less time than the conventional method; (2) trauma on the tissues is minimized; (3) there are no troublesome sutures to worry about; (4) the patient requires practically no hospitalization; (5) healing by first intention almost always occurs, and very little shock, if any, is suffered by the animal. However, as more cats were spayed, the writers came upon an idea, which would considerably im-

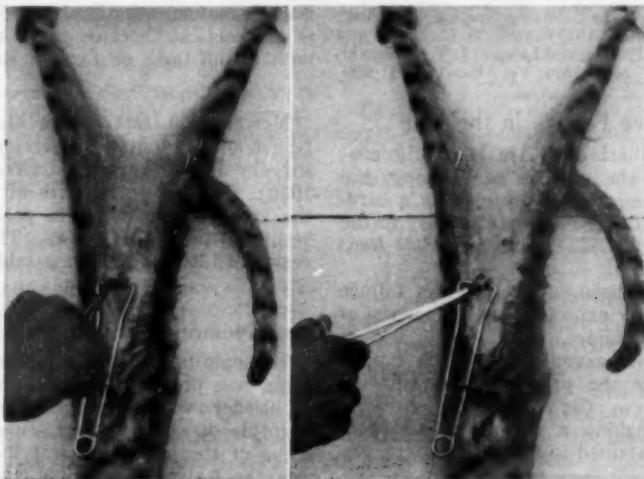


Fig. 1—Showing the rib spreader in actual use on a feline patient during the operation.

abdominal muscles and peritoneum are perforated. To remove the ovaries, a curved hemostat is forced through the incisions (that on the skin and that on the muscle and peritoneum) to locate the uterine horns

prove the technique both in speed and accuracy. At this point, it should be noted that in Flynn's method, it is frequently difficult to locate the horns of the uterus, because the curved hemostat employed for the purpose is worked blindly inside the abdominal cavity. For the novice, especially, to pick up either of the uterine horns would take a

Drs. Solis and Arañez are on the faculty of the College of Veterinary Medicine, University of the Philippines, Quezon City. Mr. Manalili is a thesis student at the University.

lot of time, since he could not see them. In other words, at this phase of the operation, the surgeon is probing into the unknown.

The improvement we developed to overcome this hazard is simple. It merely consists of the use of the rib spreader or dilator which comes as an accessory in any caponizing set available on the market (fig. 1). This is how it is employed: Once the skin, muscle, and peritoneum have been punctured, the spreader, with its lips closed, is introduced through these structures. Next, the spreader is opened gradually until the interior of the abdominal cavity comes into plain view of the operator through a hole about  $\frac{1}{2}$  in. wide. The spreader can be left in place without the help of an assistant. With the abdominal viscera visible, picking up of the uterine horn presents no problem at all (see fig. 1). When the operation is completed, the jaws of the spreader are first brought into close proximity and the instrument is withdrawn.

#### References

<sup>1</sup>Flynn, J. C.: The Sutureless Spaying Operation. *North Am. Vet.*, 6, (1925): 31-35.  
<sup>2</sup>Hoskins, H. Preston, and Lacroix, J. V. (editors): *Canine Surgery*. North Am. Vet. Inc. (1949): 364-368.

### Reproductive Failure in the Bull

The veterinarian can make a big contribution to the welfare of farming, the profession, and zoölogy by making a careful study of the causes of infertility in the bull, says D. H. L. Rollinson (*Vet. Rec.*, Sept. 9, 1950).

The author discusses the types of failure which may be expected, the incidence of reproductive failure, and the methods of making a field examination which can be conducted by the practicing veterinarian and can serve the commercial breeder. Bases for making a diagnosis and prognosis are contained in the article.

Evidence collected by Vosburgh and Flexner (*Am. J. Physiol.*, 161, pp. 202-211) indicates that the fetus does not derive iron from the maternal red blood cells during the latter half of pregnancy. The work was done in the guinea pig (*Nuclear Sci. Abstr.*, 4, July 31, 1950: 643).

Inbreeding is likely to decrease hatchability.

### Bovine Rumenotomy

Using the metal detector as an aid to diagnosis, 50 cases of traumatic gastritis in cows were diagnosed and rumenotomy performed. Of these 50, 12 died of the following causes: postoperative sepsis (2), general debility (5), chronic gastritis (2), and ruptured stitches (3).—(R. S. Naismith, *A Review of Fifty Cases of Rumenotomy*, *Vet. Rec.*, Sept. 30, 1950): 581-582.

*Anesthetization of Deer.*—Slow injection of nembutal into the saphenous vein produces complete anesthesia without ill effects in deer, according to a technique developed by C. W. Severinghaus, of the New York State Conservation Department (*Cornell Vet.*, July, 1950). The dose is 1 cc. per 6 or 7 lb. for young fawns, and 1 cc. per 3.5 to 5 lb. for yearlings and adults. Anesthesia is recommended for weighing and examining the animals, so that they will not injure themselves or attendants. Administration of anesthetics in food and water is impractical, because deer refuse food with an off-taste or foreign substance.

*Nembutal Anesthesia in Monkeys.*—Intravenous nembutal is recommended for surgery in monkeys (*Vet. Rec.*, June 17, 1950). The preferred site of injection is the vein corresponding in position to the recurrent tarsal of the dog. The patient is restrained face down on a table.

### True Hemophilia in Bitches

Hemophilia, demonstrated in 10 of 19 pups, was produced by intentional matings of bleeder males with females heterozygous for this disease (*Science*, June 30, 1950). Four of the pups died, but the remainder were kept alive by repeated transfusions of normal plasma. The investigators (Brinkhous and Graham, University of North Carolina's medical school) reported that these are believed to be the first cases of true hemophilia in the female. Their findings suggest that the paucity of matings between female heterozygotes and hemophilic males accounts for the lack (or absence) of female hemophilia in human beings.

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# CLINICAL DATA

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## Clinical Notes

Feeding trials clearly indicate the value of alfalfa meal and other feeds as water-soluble vitamin supplements in drylot rations for pigs.—*J. L. Krider, Ph.D., Illinois.*

Cattle arriving at the feedlot usually need rest much more than they need feed or medicine. A heavy feeding upon unloading will frequently upset cattle and it may require two weeks to correct it.—*John Dewar, D.V.M., Iowa.*

**Coal for Pigs.**—University of Wisconsin scientists have shown by controlled trials that eating coal is not beneficial to pigs. Coal-fed pigs required more feed per pound of gain than the controls.

**Oöcyst Survival.**—Some coccidial oöcysts can survive for a full year under normal climatic conditions in a severe winter in Columbus, Ohio, according to F. R. Koutz (*The Speculum*, Spring, 1950).

**Infectious Canine Hepatitis.**—The high morbidity and low mortality with death occurring without appreciable illness suggests a relationship between hepatitis contagiosa canis and louping ill in sheep, as well as swine influenza.—*Vet. Rec., Sept. 23, 1950: 557.*

A new and powerful insecticide called "scabrin" is reported by the U. S. Department of Agriculture. The insecticide, obtained from the oxeye weed, is reported to be a very potent killer of houseflies. Its effect on other bugs is still unknown.

**Ketosis.**—The severity of ketosis is determined primarily by the level of fat metabolism and is inversely proportional to the level of carbohydrate metabolism, according to A. F. Sellers, D.V.M. (Minnesota).—*Iowa Vet., (Sept.-Oct., 1950).*

Cortisone alleviates the effects of rheumatic diseases and the simultaneous administration of ascorbic acid and of desoxy-corticosterone are equally beneficial.—*Nutr. Rev., Sept., 1950.*

In many cases of foot-and-mouth disease, infection of the hoofs has been followed by secondary invasion with *Actinomyces necrophorus*, producing severe lameness.—*Lt. T. G. Murnane, V.C., in U.S. Armed Forces M. J., July, 1950.*

Encouraging results obtained with aureomycin in human brucellosis have not been duplicated in bovine cases (*Cornell Vet.*, July, 1950). In 4 acute cases in mature cows, the drug failed to arrest the disease or to modify its usual course.

**Cause of Bloat.**—Crude juice from white clover causes relaxation and paralysis of isolated rabbit intestine and may be responsible for the atony of the rumen seen in bloat, according to Evans and Evans (abstr. in *Vet. Bull.* (April, 1950):232, from *Nature*, 163: 373-375).

Antigens for successful immunization of man and dogs against leptospiral infections have been developed in the Hooper Foundation by K. F. Meyer, D.V.M., director of the Foundation. The antigen provides good immunity to *Leptospira canicola* but not to *Leptospira icterohaemorrhagiae* in dogs and in hamsters.

**Dermatitis Ointment.**—A n ointment which will control the weeping or seeping type of dermatitis can be made by compounding dehydrated glycerin (20 Gm.) and anhydrous lanolin (80 Gm.). The report by G. L. Phillips (*Bull. Am. Soc. Hosp. Pharm.*, 7, March-April, 1950:92) indicates that there are manufacturing difficulties such as reducing exposure to the air to a minimum during manufacture.

## A Duodenal Fistula in the Bovine Animal for Experimental Investigation

F. W. YOUNG, D.V.M., M.S.

*East Lansing, Michigan*

OVER THE PAST several years, the digestive activity of the bovine animal has received a great deal of attention. Most of the investigation has been a study of the digestive processes, and the nutritive function of the foodstuff, with its ultimate bearing on milk production and fat content of milk in dairy breeds. As an investigational aid, the rumen fistula has become fairly com-

tract has been acquired, more questions have arisen, and a demand for other points of observation has become more pressing. It was concluded that an ideal vantage point would be attained if a fistula were placed in the duodenum between the pylorus and entrance of the bile duct. Such a fistula can be made and the animal maintained in good health thereafter.

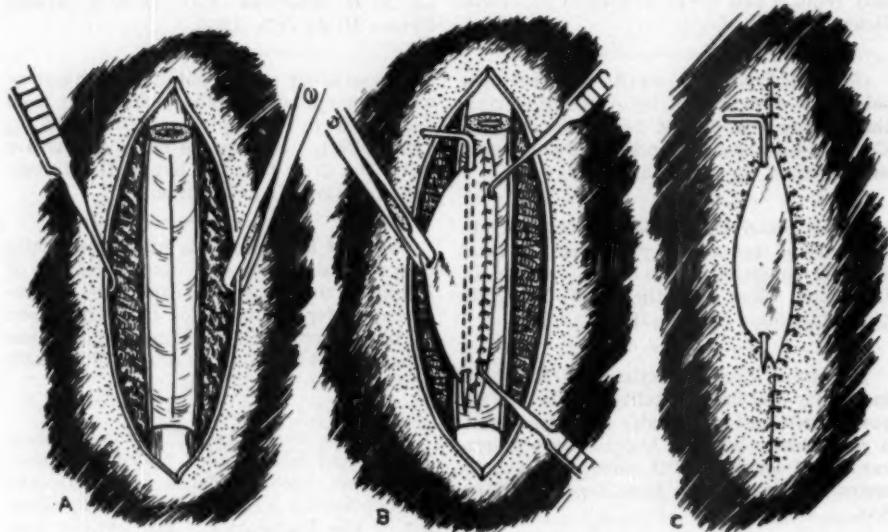


Figure 1

A—Incision spread to show periosteum after bone segment is removed.  
B—Intestinal wall elevated with forceps, skewer inserted, and wall sutured to deep tissues of body wall.  
C—Surgery completed. Intestine supported by skewer and skin sutured to cover ends of rib and the costal periosteum.

mon. Physical, chemical, and bacteriologic studies of phenomena within the rumen have been made and reported. As increasing data covering this segment of the digestive

Intimate knowledge of the anatomy of the immediate region is highly advantageous, if not essential, in performing this operation successfully. The duodenum starts at the pylorus, which is located posterior to the omasum. The omasum is easily identified by its spherical shape,

Journal article No. 1154 from the Michigan Agricultural Experiment Station.

Dr. Young, Department of Surgery and Medicine, Michigan State College, East Lansing, passed away Oct. 12, 1950.

its prominent size, and its firm consistency. From this landmark, one withdraws his hand posteriorly and locates the pyloric part of the abomasum or the duodenum. The duodenum is directly visible as the result of the arrangement of the omentum. The lesser omentum extends from its attachment on the liver to the parietal surface of the omasum, the pyloric part of the abomasum, and the first part of the duodenum. The greater omentum overlies the greater part of the right aspect of the intestine with the exception of the duodenum. Consequently, the only visible intestine as viewed from the lateral position is the duodenum. Other adjacent anatomic structures are of only secondary importance.

#### PREPARATION FOR SURGERY

The operation is performed with the animal in the standing position, restrained in a stanchion with a wall or gate along its left side so it can not swing away from the operator. The site of the operation is on the right side of the body over the twelfth rib. In preparing the field for surgery, clip an extensive area, using fine clippers (Oster No. 40), reaching 12 to 15 in. in front, behind, and below the proposed incision and clip upward to the dorsal midline. The entire clipped area is then vigorously scrubbed with a stiff, short-bristled brush using liquid germicidal detergent to produce a lather. This is rinsed off and repeated, then rinsed again using sterile, distilled water or 70 per cent ethyl alcohol.

Anesthesia is produced by novocaine block over the tenth, eleventh, and twelfth thoracic spinal nerves at their emergence from their respective intervertebral foramen. To establish this anesthesia, a set of two hypodermic needles is used: a 1-in., 15-gauge needle is put through the skin, and a 4-in., 18-gauge needle is passed through this and down to the proximity of the nerve to inject the anesthetic solution. Complete anesthesia is maintained except for slight sensation in the lower end of the incision in some cases. This reaction is due to a few cutaneous fibers from the external thoracic nerve. When the sensation proves troublesome, we counter it by injecting 10 cc. of 2 per cent novocaine in an arc below the ventral end of the incision.

#### SURGERY

After anesthesia is complete, an incision about 6 in. long is made longitudinally over the center of the twelfth rib extending ventrally to the junction of the rib with its cartilage. The primary incision passes through the skin, fascia, and periosteum to the bone substance. Then, using a periosteum scraper, the tissue is loosened until a length of wire-saw can be placed around the bone. The rib is then sawed off at each end of the incision and the separated segment picked out, leaving the periosteum in place. An incision is now made the length of the periosteum dividing it equally and thus entering the peritoneal cavity. One may then introduce the hand into the abdominal cavity, pass forward and medially, and feel the abomasum. Grasping the pyloric portion of the abomasum, one may bring it to the opening for inspection and identification and then move along to the duodenum. A second choice consists in passing the hand upward and forward to the gall bladder, follow the bile duct to the duodenum, then follow back on this organ the desired distance and bring it up to the abdominal aperture. Having brought the duodenum into the surgical

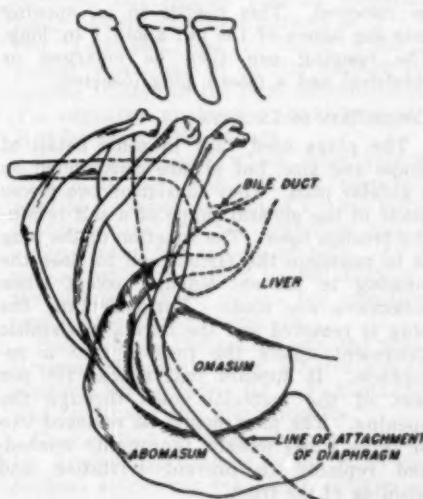


Fig. 2—Diagram showing last three ribs and the pertinent structures related to them.

incision, it is fixed in place by running a skewer through the gut wall into the lumen of the intestine, down the lumen about 1 in., then out through the wall. With the gut thus held in position, the intestinal serosa is sutured to the parietal peritoneum by a row of interrupted stitches using No. 1 chromic catgut. The skin along the sides of the incision is then sutured to the deep tissue of the abdominal wall rolling in the periosteal tissue. The ends of the skin incision are finally proximated, covering the ends of the rib and periosteum. This procedure leaves exposed only that part of the duodenal wall supported by the skewer. The periosteum encircling the lesion will eventually produce osseous tissue so that, upon healing, the fistulous passage is surrounded by a bony wall which amounts to a needle-eye in the rib, thus giving support and rigidity to the final tract (fig. 1, B).

When the last suture has been placed, a drying, healing powder is dusted over the wound. Frequent applications are made, allowing the powder to cake over the exposed tissue as a protective covering. After three days, the wound is thoroughly cleansed and the exposed intestinal wall incised. The incision is started where the skewer enters the intestine and continues down the skewer until it is freed and can be removed. This results in an opening into the lumen of the gut about 1 in. long. The opening can then be enlarged or stretched and a plastic plug inserted.

#### COLLECTION OF INGESTA

The plugs used vary in some detail of shape and size, but all are constructed on a similar plan. They consist of two pieces made in the general shape of a self-retaining trachea tube. The function of the plug is to maintain the fistula and to close the opening to prevent leakage except when collections are made. For collecting, the plug is removed and the normal peristaltic movement ejects the ingesta into a receptacle. It appears that almost 100 per cent of the material voids through the opening. The plug should be removed two or three times weekly, thoroughly washed, and replaced to prevent irritation and scalding of the tract.

When moving, advise AVMA Central Office,  
600 S. Michigan Ave., Chicago 5, Ill.

#### Notes from the Third International Congress on Brucellosis\*

*Isolation of Brucella.*—When embryonated hens' eggs had been inoculated by injecting blood clots into them, all three varieties of Brucella have been recovered by Damon and Gay, as reported to the Third Inter-American Congress on Brucellosis.

• • •

The most ardent advocates of the intradermal allergic test underpin their interpretations with the agglutination or opsonocytophagocytic test, said K. F. Meyer, D. V. M., M.D.

• • •

Bovine infection is characterized by the development of specific agglutinins, complement-fixing antibodies, and an increase in the specific bactericidal activity of the serum.—D. T. Berman, D.V.M., Wisconsin.

• • •

The symptoms of brucellosis most frequently observed in swine are abortion, sterility, lameness, orchitis, posterior paralysis, and abscess formation.—L. M. Hutchings, D.V.M., Ph.D., Indiana.

• • •

The ring test was positive on approximately nine out of ten herds in which 1 or more infected animals were in production.—M. H. Roepke, Ph.D., Minnesota.

• • •

Approximately 1.5 per cent of herds which were completely negative to blood tests were positive to the ring test.—M. H. Roepke, Ph.D., Minnesota.

• • •

Organisms surviving the lyophilization process have not sustained any serious physiologic damage so far as vaccine production is concerned.—Verwey, Harrington, and Matt, Pennsylvania.

• • •

Major handicaps to nationwide brucellosis eradication include the indifference of the beef industry, and the relatively ineffective control over the movement of infected or exposed livestock.—W. D. Knox, B.S., Wisconsin.

\*These notes were supplied by Dr. E. P. Johnson, of the Virginia Agricultural Experiment Station, Blacksburg, Va., who was the AVMA official representative at the brucellosis conference.

## Isolation of *Brucella Abortus* from Sheep

HERBERT G. STOENNER, D.V.M.

Hamilton, Montana

BASED ON reports in the literature, brucellosis in sheep is generally considered to be an infection with *Brucella melitensis*.

In the lowlands of Eritrea (Africa), Cilli and Pio<sup>1</sup> investigated brucellosis of sheep and goats which was caused by the *melitensis* species. Taylor *et al.*,<sup>2</sup> in France, Itabashi and Watanabe,<sup>3</sup> in inner Mongolia, and Orlov and Karneeva,<sup>4</sup> in Russia, also studied and reported on natural infections of sheep with *Br. melitensis*. Reports of natural infections of sheep with *Brucella abortus* are indeed rare. Bruce<sup>5</sup> investigated abortions which occurred in a flock of sheep in Canada and recovered *Br. abortus* from milk of one of the ewes which aborted. In France, Meurou and Pineau<sup>6</sup> reported the isolation of an atypical strain of *Br. abortus* from ewes which aborted. In a series of 48 strains of ovine origin (France) which were typed by the Brucella Laboratory, Michigan State College,<sup>7</sup> only two strains were classified as *Br. abortus* while 46 were classified as *Br. melitensis*. Because of its infrequent occurrence, a brief report of the isolation of *Br. abortus* from sheep is warranted.

During the course of an epidemiologic investigation of a human case of Q fever in southern California,<sup>8</sup> blood and milk specimens were obtained from 128 ewes, a portion of a flock of sheep with which the patient had had contact. These sheep had been purchased recently from a sales yard in Kern County, California. Whether they represented one flock or portions of several flocks was not known. At the time specimens were collected, only scanty lacteal secretions were obtainable, as lambs had been weaned about two months previously. Lacteal specimens were obtained from 104 of the 128 ewes and were pooled, each pool representing 5 to 10 sheep.

During an attempt to isolate a strain of *Coxiella burnetii* from this sheep milk, fertile hens' eggs were inoculated. To control growth of possible contaminants, sufficient penicillin G was added to make

Dr. Stoerner is senior assistant veterinarian, Communicable Disease Center, Public Health Service, Atlanta, Ga., and Rocky Mountain Laboratory Microbiological Institute, National Institutes of Health, Public Health Service, Hamilton, Mont.

Acknowledgments are made to Dr. I. F. Huddleson, Michigan State College, East Lansing, for confirmatory typing of the strain of *Brucella*; and to Drs. W. L. Jelison, Hamilton, Mont., and R. J. Huebner, Bethesda, Md., for access to specimens and serologic data on guinea pig inoculation of milk specimens.

a final concentration of 5,000 units per 1 ml. of inoculum. Each of 5, 5-day-old embryonated eggs received 0.5 ml. of inoculum by the yolk sac route. In the single pool of milk yielding this culture of *Br. abortus*, 1 embryo each died on the eighteenth and nineteenth day of total incubation. The remaining 3 were killed by overnight refrigeration on the twentieth day and were examined the following day. Yolk sac smears revealed a heavy growth of a small gram-negative Coccobacillus in all 5 eggs, but 2 also contained very few gram-positive contaminants. Sacs which contained only gram-negative coccobacilli were cultured on numerous bacteriologic mediums, but growth occurred only on mediums incubated under increased CO<sub>2</sub> tension.

The morphology, staining properties, and colonial characteristics of the organism were typical of Brucella. Suspensions of the organism were agglutinated by known positive Brucella serum but not by known negative Brucella serum. Growth occurred on tryptose medium containing basic fuchsin in concentrations of 1 : 25, 000, 1 : 50,000, and 1 : 75,000 while no growth was observed on this medium containing thionin in the same concentrations. The organism produced a slight amount of H<sub>2</sub>S for seventy-two hours.

Two guinea pigs which were injected with a 10 per cent yolk sac suspension (initial isolation) developed typical lesions of brucellosis, and the organism was recovered from the spleens of both. At six weeks postinoculation, a 1 : 400 dilution of the serum of each guinea pig completely agglutinated Brucella antigen.

Based on the foregoing tests, the organism was classified as *Br. abortus*. A culture was forwarded to Dr. I. F. Huddleson, who confirmed this classification.

The serums of these sheep were tested for Brucella agglutinins by the rapid plate method, employing both BAI antigen and an antigen prepared from this strain.<sup>9</sup> These serums were not available for testing until approximately one year after collec-

tion, as they were being utilized in Q fever studies. Of the 128 specimens collected, 93 contained sufficient serum for conducting an agglutination test. The serum of 1 of the 10 sheep whose pooled milk yielded the strain of *Br. abortus* completely agglutinated both antigens to a 1:100 serum dilution. Seven other serums incompletely agglutinated both antigens to 1:50 dilution while six additional serums caused incomplete agglutination of both antigens in 1:25 serum dilution. None of the 93 serums agglutinated *Bacterium tularensis* antigen in 1:20 serum dilution.

During Q fever studies conducted by Dr. R. J. Huebner, National Institutes of Health, Public Health Service, Bethesda, Md., duplicate milk specimens were inoculated into guinea pigs on three occasions. Only guinea pigs which received a duplicate specimen from which the strain was isolated developed agglutinins against *Brucella*. Based on this and serologic evidence, apparently only 1 of the ewes was infected at the time the flock was tested. Whether the presence of agglutinins in low titer in 13 other serums indicates infection or nonspecific agglutination was not determined.

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### Aberrant Loci in Equine Verminous Aneurysms

A. C. TODD, Ph.D.; R. G. BROWN, D.V.M.; Z. N. WYANT, M.S.; F. E. HULL, D.V.M.

Lexington, Kentucky

Determination of size and exact location of verminous aneurysms in horses brought to postmortem examination has been of intense interest in this department for more than thirty years. In this interval, and until the adoption of systems of intermittent low-level phenothiazine therapy, no animals were received which did not show some degree of occlusion of the anterior mesenteric artery and its immediate branches.

Recently, 2 young Thoroughbreds were examined which had developed aneurysms in unusual loci. The first of these, a weanling, was found to have developed a small aneurysm in the hepatic artery. The worms present were all identified as immature *Strongylus vulgaris*. The second animal, a 5-month-old suckling, had a large area of involvement in the trunk of the anterior mesenteric artery and its immediate branches and, in addition, the medial cecal artery was completely involved to its terminus. The unusual feature was that the posterior aorta itself was involved for a distance of 6 in. anterior to the origin of the anterior mesenteric artery.

A total of 1,704 immature *S. vulgaris* were collected from the posterior aorta, the anterior mesenteric artery, the small arteries leading to the small intestine, the ileal and cecal arteries, the lateral and medial cecal arteries, the ventral, dorsal, and middle colic arteries, and the anterior and posterior branches of the posterior mesenteric artery.

One of us (Hull) recognized these as the first aneurysms discovered in the hepatic artery and posterior aorta of nearly 3,000 horses, which he had examined.

From the Department of Animal Pathology, Kentucky Agricultural Experiment Station, Lexington.

The investigation reported in this paper is in connection with a project of the Kentucky Agricultural Experiment Station and is published by permission of the director.

## The Histopathologic Diagnosis of Filarial Dermatosis in Sheep

C. L. DAVIS, D.V.M., and H. E. KEMPER, D.V.M.

Denver, Colorado, and Albuquerque, New Mexico

IN 1938, Kemper<sup>1</sup> reported his findings on a previously undescribed disease in sheep which was first observed in a band of range ewes in Catron County, N. M., in 1933. The primary lesion of this disease was described as a circumscribed, raised, en-

the abdomen were sent to a laboratory for diagnosis. The laboratory reported only the isolation of a fungus that resembled *Tinea tonsurans*. The application of several recognized fungicides to the lesions showed no beneficial effects, however, and search for the causative agent was continued.

The following March (1934), postmortem examinations, made on 2 affected sheep showing both head and foot lesions, resulted in finding threadlike nematodes unattached in the posterior aorta and in the carotid, occipital, mesenteric, and iliac arteries. The parasites were sent to the Zoological Division, Bureau of Animal Industry, U. S. Department of Agriculture, Washington, D. C., where they were described and identified as a new species, *Elaeophora schneideri*, by Wehr and Dikmans.<sup>2</sup>



—H. E. Kemper

Fig. 1—Typical "sore-head" lesion of filarial dermatosis, with extension of the inflammatory process over the face down to the nostrils and lips.

crusted form of dermatitis involving the skin of the poll region, extending forward in some cases over the face to the nostrils and lips (fig. 1). In about 25 per cent of the cases, the hind foot used to scratch the head lesion was similarly involved. Likewise, an estimated 10 per cent of the cases, when lying down, also showed lesions on parts of the abdomen coming in contact with an affected hind foot.

At the time the disease was first observed, pathologic specimens taken from the forehead, hind feet, and underside of



—H. E. Kemper

Fig. 2—Microfilaria of *Elaeophora schneideri* recovered by the maceration technique.  $\times 500$ .

The discovery of adult filariae in the arterial system led to the finding of larval forms in the skin lesions in 2 necropsied sheep in 1937. Search for the parasites in the skin lesions was prompted by the fact

From Branch Pathological Laboratory, Denver, Colo. (Davis); and the Zoological Division, U. S. Bureau of Animal Industry, Albuquerque, N. M. (Kemper).

that localization of larval forms occurs in the skin of animals affected with other members of the family Filariidae, such as the *Onchocerca*. This was accomplished by placing finely shredded pieces of the

#### REPORT OF CASES WITH HISTOPATHOLOGIC FINDINGS

One of 8 ewes trucked in from southeastern Colorado to the Denver yards for slaughter showed a "sore-head" lesion



—Armed Forces Institute of Pathology Accession 218446

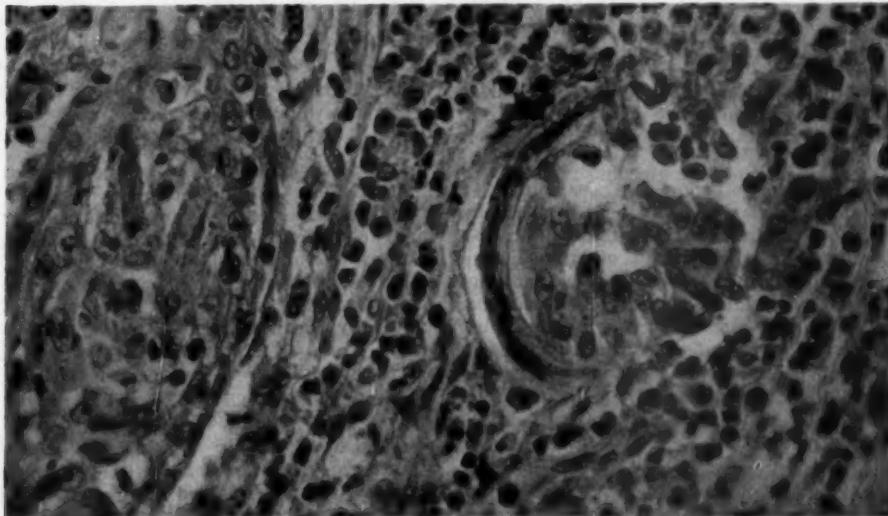
skin lesions in a beaker of warm physiologic salt solution for two to three hours; the liquid was then drained off and centrifuged. Numerous actively motile microfilariae, measuring  $270 \mu$  by  $18 \mu$ , were recovered with a pipette from the bottom of the centrifuge tubes. The parasites were regarded as the cause of the dermatitis (fig. 2). It should be pointed out that examination for microfilariae in the skin lesions in fresh tissue must be done on the day of necropsy because of the rapid deterioration of the parasites. Otherwise, the tissue must be preserved in formalin for histologic examination.

which Dr. E. A. Meyer, federal supervisor of yard inspection service, believed to be filarial dermatosis. The affected animal was tagged for slaughter only and the skin lesion was submitted for laboratory examination for confirmation of the clinical diagnosis. At postmortem examination, no attempt was made to determine the presence of adult filariae in the iliac, mesenteric, or carotid arteries. Because of pressure of other work, no direct examination for microfilariae was made of the fresh material but, instead, several strips of the lesion were placed in formalin (10%) for histologic examination at a later time. The finding

of microfilariae in the tissue sections of the skin lesion in this case prompted us to obtain additional material. Another skin lesion, also fixed in formalin, was collected by one of us (Kemper) from an affected ewe on a New Mexico ranch where the disease was prevalent. Adult filariae in the arteries, and microfilariae, were demonstrated in this animal prior to formalin-fixation of the skin lesion. Since the case from New Mexico was more active and of an exudative character, it was selected for histopathologic description.

Paraffin blocks were prepared from several areas of the skin lesion, cut at  $7\text{ }\mu$  (for consistency with earlier section) when possible, and stained with hematoxylin-eosin and Giemsa stains. In section, there was seen a hyperplasia of the epithelial layer with clubbing of the rete pegs and a variable degree of hyperkeratosis. In places, the surface epithelium showed ulceration, severe hemorrhage, and serous exudation. Near the surface, there were cystic spaces, some filled with serum or an admixture of serum, red blood cells, and eosinophils. These structures had the appearance of bullae or vesicles. All the layers of the skin showed focal to diffuse infiltration of inflammatory cells of a

granulomatous nature (fig. 3). The cellular infiltrate also extended into the underlying musculature. The inflammatory cells consisted of eosinophils, histiocytes, plasma cells, lymphocytes, occasional multinucleated giant cells and comparatively few polymorphonuclear leucocytes. In some foci, the histiocyte was the predominating cell, whereas in others the eosinophil appeared in greater numbers. Within the inflammatory tissue were seen a number of distinct microfilarial forms which were usually contained within capillaries and were obviously responsible for the inflammatory process. The parasites could be found in all the layers of the skin but were more numerous in the reticular portion (fig. 4). Not infrequently, however, the microfilariae were seen near the surface making them readily accessible to blood-sucking or biting Arthropoda which may serve as intermediate hosts (fig. 5) since, in so far as we know, all filariae require an intermediate host in their life cycle. Sections taken from the normal appearing skin adjacent to the affected parts showed an intact, uninvolved epithelial layer, but there was a mild cellular infiltration in the underlying reticular layer consisting mostly of plasma cells situated for the most part



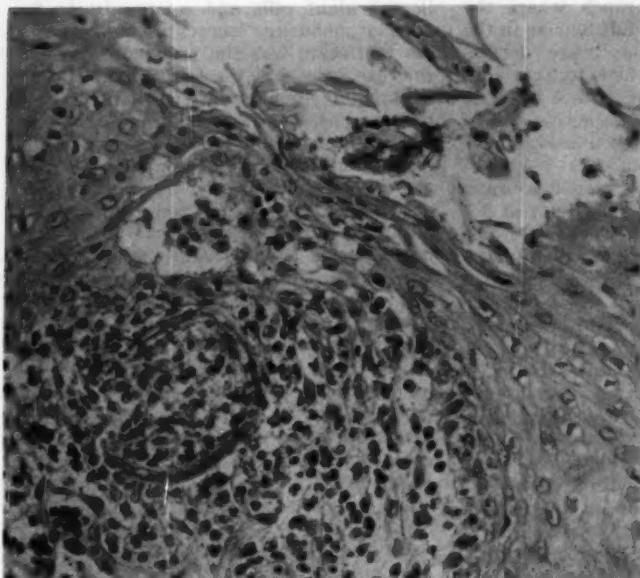
—Armed Forces Institute of Pathology Accession 218446

Fig. 4.—Section showing microfilariae within a capillary in the dermis, surrounded by inflammatory cells.  $\times 435$ .

about blood vessels. Microfilarial forms were not demonstrable in such areas and the cellular infiltrate was considered to be merely an extension into the normal parts.

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—Armed Forces Institute of Pathology Accession 218446

Fig. 5—Section showing a microfilaria in close proximity to the surface epithelium. x 269.

#### SUMMARY

The histopathologic changes in filarial dermatosis of sheep are described. To our knowledge, these have not previously been reported.

These studies show the feasibility of diagnosing filarial dermatosis in sheep by histologic methods, although the maceration technique for the isolation of microfilariae is perhaps simpler and less time consuming. However, isolating motile microfilariae must be done on the day of necropsy because of the rapid deterioration of the parasites in postmortem specimens. If this is impractical, then formalin-fixed tissue should be submitted for examination by the pathologist.

Microscopically, the lesion is essentially a chronic granulomatous process in which microfilariae can be readily demonstrated. The parasites are obviously the etiologic agent.

(*Filariidae*) from North American Ruminants. *Zoologisch. Anzeig.*, 110, (1935):202-208.

#### Stasis of Crop in Blue Comb

In poultry, stasis of the crop is observed in blue comb and on no other occasion. Ten to 20 cc. of 4 per cent acetic acid or vinegar given by a pipette into the crop contents, accompanied by gentle massage, had a favorable effect in alleviating the crop paralysis. The use of the acid was suggested by the hydration of protoplasm by acids.

This treatment has not been tried in cases of impacted grass or litter.—Glenn Van Ness, D.V.M., Florida.

Local applications of diethylstilbestrol in corn oil, on the first and third days after calving, helped to alleviate udder congestion among first-calf heifers studied at the Michigan Agricultural Experiment Station.

## Newcastle Disease in Puerto Rico

J. ENRIQUE PEREZ, Ph.D., and  
LUIS M. GONZÁLEZ, Ph.D.

San Juan, Puerto Rico

An epidemic among chickens on a poultry farm near the city of San Juan was reported to our laboratory. The symptoms observed were, in the majority of cases, gasping for air, cough, and rales. Other animals showed nervous disorders such as tremors and paralysis of one or both legs. This picture strongly suggested different progressive stages of Newcastle disease. Twenty of the suspected chickens were bled and their serums obtained to determine the presence of antibodies to Newcastle disease virus. Using the California strain 11914 as antigen in the form of allantoic fluid, agglutination-inhibition tests were performed as follows: Serial twofold dilutions of the serums were made in 0.85 per cent saline. To 0.2-cc. quantities of the diluted serums, an equal volume of virus containing 4 agglutinin units was added. This was mixed with 0.4 cc. of a 0.5 per cent saline suspension of chicken red cells. After shaking the tubes, they were left standing at room temperature for forty-five minutes; and then the reaction was read. The endpoint was taken as the last tube showing complete absence of agglutination, *i.e.*, where a definite "button" of cells was seen in the bottom. The serum of 6 normal chickens from elsewhere were tested simultaneously. The results are shown in table 1.

TABLE I—Agglutination-Inhibition Titers

Suspected chicken	Normal chicken
1. 1 : 512	11. 1 : 512
2. 1 : 128	12. 1 : 512
3. 1 : 256	13. 1 : 1024
4. 1 : 64	14. 1 : 2048
5. 1 : 1024	15. 1 : 1024
6. 1 : 128	16. 1 : 64
7. 1 : 1024	17. 1 : 1024
8. 1 : 256	18. 1 : 256
9. 1 : 256	19. 1 : 128
10. 1 : 256	20. 1 : 128

As may be seen from the table, all serums (with the exception of 4 and 16) had titers above 1 : 80 which is considered to be the lowest diagnostic titer.<sup>2,3</sup> Serums 1, 5, 7, 11, and 13 were sent to the Bureau of Animal Industry, U. S. Department of

From the Department of Microbiology, School of Medicine-School of Tropical Medicine, University of Puerto Rico, San Juan, P.R.

Agriculture, Washington, D.C., for determination of their neutralization titers. They were found to neutralize more than 1,000 embryo minimum lethal doses of Newcastle disease virus.\*

Suspensions of trachea, lung, and spleen from 2 sick chickens showing respiratory symptoms were inoculated by the allantoic route in a number of 12-day-old embryos. Three embryos were found dead seventy-two hours after inoculation, and they showed marked congestion and also hemorrhagic involvement of the yolk sac.

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<sup>3</sup>Osteen, O. L., and Anderson, W. A.: Laboratory Diagnosis of Newcastle Disease (Avian Pneumoencephalitis). *J.A.V.M.A.*, 112, (1948): 40-44.

\*We wish to thank Dr. R. R. Henley of the Pathological Division, Bureau of Animal Industry, Washington, D. C., for performing the neutralization tests.

## Jaundice of Sheep

A diagnosis of chronic copper poisoning is usually not very difficult to establish. The disease occurs most frequently in sheep which are grazing on pastures dominated by subterranean clover on particular soils and under particular seasonal conditions.—*Austral. Vet. J.*, 26, Sept., 1950: 229-232.

Neostigmine methylsulfate subcutaneously or intravenously gives dramatic relief within a few seconds to patients suffering from procaine "hypersensitivity," characterized by dizziness, apprehensiveness, trembling, and palpitation.—*Current M. Digest*, July, 1950.

## ACE in Irradiation

ACE\* given ten days prior to irradiation increased the survival rate in both sexes of mice. When given immediately before irradiation, it raised the mortality in females. This report was made by Graham, Graham, and Grafeo in *Endocrinology* (May, 1950) and abstracted in *Nuclear Science Abstracts*, July 13, 1950.

\*Adrenal cortical extract.

## Short History of Tick Eradication in the British Virgin Islands

A. V. HALL, V.S., D.V.M., D.V.P.H.

Trinidad, British West Indies

THE BRITISH Virgin Islands are the most northerly presidency of the colony of the Leeward Islands and lie in close proximity to the American Virgin Islands of St. Thomas and St. John. They comprise a number of small islands, the largest and most important of which is Tortola, the seat of government of the group. The total population is about 6,000 to 7,000, rural and decentralized. The topography of Tortola precludes large-scale crop cultivation and the production of livestock, which finds a ready market in St. Thomas, represents the most important industry of the group.

The even tenor of life in the Virgin Islands was somewhat rudely shattered about 1938 when the federal laws of the continental United States, relative to the importation of livestock into American territory from tick-infested areas, were made to apply to insular possessions of the United States. This meant that the British Virgin Islands would be deprived of their traditional market in St. Thomas and the internal economy of the group would be disrupted.

On representing the gravity of the situation that would develop if the St. Thomas market was summarily cut off, the American authorities made an important concession. They decided that if the British authorities would undertake a campaign of systematic tick eradication under qualified veterinary direction, they would, pending initiation of the formal campaign, allow livestock imports into St. Thomas to continue subject to such imports being tick-free and being so certified. In addition, it was required that all imports be accompanied by a negative tuberculin certificate.

### THE CAMPAIGN

Systematic tick eradication is concerned almost exclusively with one parasite, the "cattle-fever" tick (*Boophilus annulatus*),

Dr. Hall is veterinary officer, Department of Agriculture, and officer in charge, Government Stock Farm, Trinidad, B.W.I.

the transmitting agent of the blood parasite, *Babesia bigemina*, which is the cause of "tick-fever" or piroplasmosis. It may be a digression, but it is interesting to recall that the knowledge of the causation and mode of transmission of tick-fever remains one of the epochal accomplishments in the field of veterinary medical history, since it was the first to show that arthropods were capable of acting as carriers of mammalian disease.

To carry out methods of eradication successfully, it is necessary to know the life history of the tick. Fortunately, in the case of this parasite, the life cycle is well known and can be effectively broken by suitable treatment every fourteen days. Treatment is best carried out by the use of "tickicidal" agents in dipping vats, the construction of which, in a territory lacking adequate internal means of communication and the services of a Public Works Department, was among the first problems to be faced by the local administration. Ten vats were finally constructed, six on the mainland and four on the out-islands.

Upon the arrival of the first veterinary officer from Canada, Dr. See, the building program had not progressed sufficiently to permit large-scale dipping. With the introduction of enabling legislation, he tuberculin-tested the entire cattle population, about 5,000 animals, all with negative results. Upon the expiration of this officer's contract, he returned to Canada and was replaced by Dr. Julian, also from Canada. The construction program was completed during this officer's tour and regular dipping at fortnightly intervals begun. This officer also returned to Canada upon the expiration of his contract early in 1942 and was succeeded by the writer in the summer of the same year.

Although cattle are the preferred hosts of the fever tick, other animals are also attacked and in a systematic eradication campaign, it is necessary to treat not only cattle but all susceptible animals. With the exception of swine and poultry, all classes of livestock were required, under

enabling legislation, to be dipped at fortnightly intervals. This entailed the evolution of a somewhat complicated system of livestock registration, especially as regards births, deaths, and transfers. In a community exhibiting such wide dissemination of animal ownership as obtained in the Virgin Islands and where livestock trading was so active, accurate record-keeping was most difficult, albeit most necessary so as to insure that the entire animal population affected was being dipped. As previously stated, the cattle population was estimated at about 5,000 with about double that number of goats. The equine and sheep population of the group were small.

The campaign was conducted during the World War II period, when the newer "tickicides" now in vogue were not procurable. Commercial cattle dip was used, the active agent of which is sodium arsenite. We operated our baths on a concentration of about 0.18 per cent arsenious oxide, which concentration we found just as effective as higher concentrations and less risky. The strength of the baths was determined by a method developed by the Bureau of Animal Industry, Washington, D.C. The test was simple and reliable. Vat samples were routinely examined prior to dipping.

Notwithstanding the number of vats constructed, the campaign proved exceedingly onerous to animal owners and became an acrimonious issue. In view of the decentralization of the human population, considerable distances over difficult terrain had to be traversed on dipping days, often necessitating "dragging" goats and sheep which frequently would not lead or drive.

At the outset of the campaign, the mainland—Tortola—was divided by an imaginary boundary for dipping purposes. The east end of the island was dipped one week and the west end the week following. It was found that this arrangement provided loopholes for the evasion of the dipping laws, since animals were transferred across the imaginary line of demarcation just prior to dipping in the area concerned. To counteract this, simultaneous dipping was introduced whereunder the entire island was dipped at the same time. It became necessary also to put "teeth" into existing

legislation in cases of frequent violations of the dipping laws.

In retrospect, it seems that the ground was not sufficiently prepared educationally for the initiation of tick eradication. In fact, the livestock community held far too rosy a view of the time element required to accomplish eradication, without appreciating adequately that the governing factor was co-operation. While it is true that in a given area where complete co-operation is obtainable, it is theoretically possible to achieve eradication in a period somewhat less than a year, it is, on the other hand, entirely conceivable that where co-operation is withheld, the campaign can continue almost indefinitely without accomplishing the desired results. In an effort to emphasize this aspect, leaders were selected in various communities and an attempt made to "put across" tick eradication with them in the hope that they would favorably influence their respective communities.

Brief reference has been made to legislation—dipping laws—and it is necessary to elaborate somewhat on this aspect of the campaign. In the framing of the legislation, provision for compensation for loss through dipping was incorporated. Although the basis of evaluation *per capita* proved to be most moderate in the light of livestock prices obtained in the artificial market produced by war conditions, nevertheless the mere presence of such statutory provision complicated somewhat the conduct of the campaign. It raised a serious doubt in the minds of livestock owners as to the relative safety of dipping, and a tendency developed to ascribe all the ills to which the domestic animal is heir to dipping. In this connection, it may be relevant to state that, to the best of the writer's knowledge, no such provision was included in comparable legislation of the neighboring American islands where tick eradication was also being carried out. In point of fact, dipping is a relatively safe procedure providing certain elementary safeguards are observed. During the writer's tour, only one or two cases of genuine arsenical poisoning were seen among the thousands of animals dipped.

Notwithstanding the reorganization and revitalization of the campaign, it became apparent during 1943 that equine animals

(particularly horses) and occasionally cattle continued to exhibit a degree of tick infestation. This was most disturbing, as we felt that, with the leaks plugged, the campaign was being effectively waged. It was decided to submit for identification specimens of ticks collected both from horses and cattle to Dr. F. C. Bishop, a noted tick authority, of the Bureau of Entomology and Plant Quarantine. Examination showed that the ticks with which we were now dealing were not cattle-fever ticks (*B. annulatus*) but tropical horse ticks (*Dermacentor nitens*). This tick, although primarily an external parasite of horses, will also to a limited extent often invade other hosts. Morphologically, it is similar to the cattle fever tick, but its life cycle and bionomics are not so well known. It is somewhat resistant to treatment in standard arsenical baths because of the areas selected in the host for invasion. These areas are usually well protected by a sebaceous secretion and include such anatomic regions as under the tail, mane, and ear. Our experience with this parasite was identical to that obtained in Puerto Rico during the period of their campaign, viz.: that it is difficult, if not impossible, to eradicate this tick by regular dipping in the standard arsenical solution as used in cattle-fever tick eradication.

#### RESULTS

On the strength of the foregoing findings, application was made to the Bureau of Animal Industry through formal channels for the accreditation of the Islands as an area free of the cattle fever tick (*B. annulatus*). This application was granted early in 1944, thereby making the British Virgin Islands the only group in the British West Indies to be so accredited—another example, perhaps, of British-American coöperation.

At long last, compulsory dipping was at an end. The Virgin Islander had received his just reward and it was an occasion of much relief and rejoicing. As a precautionary measure, however, it was decided to continue the dipping, immediately prior to shipping, of all animals presented for export and to encourage voluntary dipping. Eternal vigilance in the matter of livestock introductions is the

price of continued freedom from the cattle fever tick.

Thus, in spite of the many obstacles encountered, the campaign of tick eradication in the British Virgin Islands was brought to a successful conclusion and a considerable sum of money earmarked for the continuation of the project, under the auspices of Colonial Development and Welfare, was thereby made available for other agricultural development.

#### Hard Pad Disease in Australia

Although "hard pads" have been observed in Australia, their significance is at present obscure, say J. D. Steel and J. H. Whittem (*Austral. Vet. J.*, Aug., 1950).

The authors also conclude that the clinical syndrome, commonly referred to as canine distemper, may be caused by at least two, and possibly three or more, distinct viruses. They classify the neurologic manifestations as: epileptic seizures without focal localizing signs, tremor syndrome, cerebellar syndrome, frontal lobe syndrome, and meningitis.

#### Antihistamine and Circulation

Antihistamines (anthallan, chloro-trimeton, 194-A, 194-C, and antergan) are potent local vasoconstrictors. They cause closure of the precapillary sphincters, a decreased flow through the capillary bed, and leucocyte sticking. The degree of activity was directly related to concentration of the drug in work done by Haley and Andem for the U.S. Atomic Energy Commission (UCLA-70, May 15, 1950).—*Abstracted, Nuclear Sci. Abstr.*, 4, July 31, 1950.

*Hypothyroidism* with subclinical goiter—essential thyroxin deficiency without hyperplasia or hypertrophy of the gland—especially in iodine-deficient regions, appears to beg more attention in farm animal medicine. The known physiology of the thyroid and the strain on structure during the rapid growth and short economic life of farm animals may have unseen clinical importance. Observing practitioners and competent physiologists will have to answer what seems to be an unanswered question. Thyroxin, like iodine itself, is a tremendous thing.

# NUTRITION

## Fungus Growth and Nutritional Deficiency

NANCY S. DAY and CHARLES HOEFLER, D.V.M.

New Haven, Connecticut

ALTHOUGH microorganisms exist in all species of living animals, their relationship to the host remains the subject of considerable scientific debate. Pasteur, in 1885, suggested that animal life would be impossible without the coöperation of the microorganisms found in the digestive tract. Metchnikoff was interested in the relation of the type of intestinal flora to longevity. Although considerable evidence is available to show that the intestinal flora can contribute significantly to the physiologic economy of the host by the synthesis of vitamins, it has also been shown in the last decade by Reyniers,<sup>1</sup> at Notre Dame, and Baker and Ferguson,<sup>2</sup> at the Rockefeller Institute, that animal life could exist free of microorganisms, provided complete nutrition was supplied.

Past reports concerned with organisms thought to be nonpathogenic, that inhabit external body surfaces, have dealt with bacteria. Only recently, Dr. Irene Corey Diller<sup>3</sup> presented her results on the invasion of neoplasms by fungi and the possible harmful effects produced by them. Although it has been known for many years that fungi, other than those recognized to produce visible lesions, are present on the body surfaces, they have attracted little attention, and few attempts have been made to discover the ability of fungi to penetrate outer body defenses and live within tissues. Perhaps this has been due, in part, to difficulties in the cultivation and identification of fungi.

That fungi do possess the ability to invade body tissues, and that this ability is directly influenced by the state of nutrition of the animal host, is our contention. Factors such as vitamin and mineral or endocrine imbalance, all of which interfere with or alter tissue metabolism, apparently

in some way lower the "resistance" or "resiliency" of tissue. Such debilitated tissues, in accordance with this idea, are then subject to invasion by fungi which may produce disease, sometimes obvious in nature, yet frequently so subtle that only vague symptoms are evident. Such a hypothesis would be analogous to the case of bacterial invasion subsequent to serious vitamin A deficiency. If bacteria can so invade the deficient organism, why not fungi?

Treatment with fungicides, while temporarily helpful, does not eliminate the basic cause—a nutritional deficiency which, if allowed to proceed unchecked, may produce a concomitant endocrine or glandular imbalance. To regain optimum health then, all fungi must be eliminated from the tissues. This can best be done by correcting the deep-seated nutritional deficiency which will permit reestablishment of normal tissue metabolism and endocrine balance.

Certain observations made over a period of years will serve to illustrate the above theory.

### EXPERIMENTAL

The following observations have been made, consistently and faithfully, over a period of five years in two animal species—the Nubian goat and the Great Dane dog.

When attempts were first made to raise purebred Nubian goats, certain difficulties were met. The animals used were purebred stock of high quality, and were disease-free in so far as could be determined. The herd was tested periodically for tuberculosis and brucellosis and never exhibited a positive reaction to these tests. In addition, the herd received constant and careful attention from the point of view of animal husbandry. The animals were fed second- or third-cutting alfalfa hay with the addition of an adequate grain supply of the best

From the Yale University Nutrition Laboratory, New Haven, Conn.

quality obtainable. Pasture was available in abundance, in season. Despite the best of care, some of the goats showed improper bone development and most were thin. They had udders that were lumpy and uneven, though not like the fibrous mastitis type of udder. Reproductive performance was poor, and those animals that had kids gave evidence of only fair milk supply. It seemed that some deficiency was in evidence.

At this time, crude sugar molasses (black strap), at a level of approximately 15 to 20 ml. per animal per day, was added as a supplement to the aforementioned diet, even though the grain fed contained, according to the manufacturer, some molasses of uncertain origin. The goats started to improve in general health and appearance, although they were still not in perfect condition. It was soon noted that the animals exuded a flaky, scaly, dandruff-like debris from the pores of the skin. This debris was identified as a fungus.

Since the goats had not shown complete improvement, cider vinegar, which they like, was given at a level of about 5 to 10 ml. per goat per day in addition to the black strap molasses. This had the almost immediate effect of increasing the exudation of the fungus from the skin.

The continuation of this dual treatment finally resulted in improved coats and general appearance and, from this point on, reproductive performance of the herd was excellent. Not only did the administration of black strap molasses and cider vinegar cause the exudation of fungus, but B-carotene alone, added at a level of 15 drops per day (ca. 7,500 I.U.), had a marked effect in causing the liberation of fungus from the pores of the skin.

Experience with Great Dane dogs maintained under nearly ideal conditions, with respect to nutrition, sanitation, and general care, was similar to that with Nubian goats. Great Danes that seemed perfectly normal in health, especially as to skin condition, might show a negative test for fungus after a skin swab, even when the skin around the base of the tail was swabbed. If, however, the anal glands were squeezed, one frequently obtained an exudate which showed the presence of fungus when incubated. If crude molasses, cider vinegar, or B-carotene (ca. 7,500 I.U.) were given separately or in combina-

tion, these anal glands soon oozed in profusion an exudative material which contained a great deal of fungus. Fungus could then be cultured from the skin pores as well. All of this nutritional correction, then, had the effect of a cleansing action in which the body eliminated this undesirable fungus, providing the usual excretory routes were normal.

It is interesting to note that, although B-carotene was highly active in inducing this "outpouring" of fungus, vitamin A itself did not produce this result.

It should not be construed, however, that the treatment outlined above is alone always 100 per cent effective. It has been noted in a significant number of animals, both dogs and goats, that unless the skin glands of the animal are kept functioning, so as to provide a normal exit for fungi, treatment with molasses, cider vinegar, or B-carotene may not only be ineffective but actually may cause further difficulties, since fungus is accumulated, thereby causing edema.

Additional research is being focused on this phase of the problem. Further experiments are also in progress which, we hope, will explain some of the variables which seem to be operating, such as nutritional and glandular imbalance which may be pertinent to this problem.

#### SUMMARY

Experience over a five-year period with Nubian goats and Great Dane dogs has led to the finding that these animals, although they may appear normal, carry a fungus which may be eliminated from the animal after the continued administration of any one or combination of (1) black strap molasses, (2) cider vinegar, and (3) B-carotene. It is thought that this fungus develops in the animal as a result of a nutritional deficiency and is eliminated when the deficiency is corrected, provided the normal route of excretion, namely the skin glands, are kept operating in a normal way.

#### References

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- Baker, J. A., and Ferguson, M. S.: Growth of Platyfish (*Platypoecilus Marulatus*) Free from Bacteria and Other Microorganisms. Proc. Soc. Exptl. Biol. and Med., 51, (1942):116-119.
- Diller, Irene C.: Paper presented at A.A.S. meetings, New York City, N. Y. Dec., 1949.

## Parotid Gland Lesions in Vitamin A Deficiency

The parotid gland seems to be especially prone to exhibit specific histopathologic alterations of A-hypovitaminosis and is the only organ so far ascertained that lends itself to specific morphologic diagnosis of vitamin A deficiency in the ox (*J. Dai. Sci.*, Sept., 1950: 666-675). Consistent changes were found in the anterior pituitary (decrease in the chromatic cells) and in the thyroid (mild hyperplasia). There was focal necrosis and/or cirrhosis of the liver, pneumonia, and mild interstitial nephritis. The testes manifested retarded spermatogenesis in some seminiferous tubules. The parotid gland changes were characterized by a high incidence of specific squamous metaplasia in the interlobular ducts.

## Feeding APF-Aureomycin Supplement

Recent trials at Purdue and Illinois universities indicate that pigs will gain faster on pasture if they are fed a supplement containing APF and aureomycin, or B<sub>12</sub> and aureomycin. However, these drugs do not cut down the total feed requirement and do not decrease the cost of gain. The feeding of these supplements will reduce scouring and infectious enteritis.

## Native Hay Is Poor Ration

Ewes fed only native hay or native hay supplemented with cornstarch suffered heavy losses of body weight during pregnancy. At lambing time, they were emaciated, weak, lacked maternal instinct, and had very poor udder development. Lambs were weak or dead at birth and many died while very young.—Whitehair, Nash, Gallop (Oklahoma). *Am. Soc. Anim. Prod.*, Chicago.

## The Phosphatase Enzymes

Certain enzymes are able to add or subtract phosphate in biochemical processes. These phosphatase enzymes are important for the growth, repair, nutrition, and muscular functioning of the body throughout life. They play a role in the formation of bones and teeth; they are essential in the utilization, storage, and mobilization of carbohydrate energy. Seemingly, they are

related to certain states of disease, especially of middle and later life. Indications are that some of the current research will be applied before long in dietary supplementation, and in therapy.

The whole problem of these enzymes and their differentiation from vitamins and hormones is discussed in *Borden's Review of Nutrition Research* (Sept., 1950).

## Relation of B Vitamins to Cobalt Deficiency in Sheep

Injection of vitamin B<sub>12</sub> into cobalt-deficient lambs for four weeks failed to produce satisfactory results. However, a complete B vitamin supplement given daily by mouth for a period of seven weeks reversed all symptoms of cobalt deficiency in 2 lambs. A supplement of only folic acid and pyridoxine aggravated a cobalt deficiency. The results suggest that the physiologic role of cobalt in sheep is by some route other than vitamin B<sub>12</sub>, even though there is an extremely large synthesis of this vitamin in the rumen of cobalt-supplemented sheep.—*J. Anim. Sci.*, Nov., 1950.

## Antibiotics in Poultry Rations

Scientific facts show that if sufficient amounts of certain crude antibiotic sources or the pure antibiotics are added to rations for normal starting chicks and starting turkeys, up to 10 or 15 per cent better growth will result. This is true even if the rations already contain animal protein feedstuffs. It is about here that fiction begins and facts end as far as practical recommendations are concerned, says G. M. Briggs of the University of Minnesota (*The Feed Bag*, Sept., 1950).

Young calves did not gain more rapidly nor more efficiently when fed thiouracil at a dosage level of from 0.035 to 0.065 Gm. per kilogram.—*J. Anim. Sci.*, Nov., 1950.

*Nutrition and Swine Enteritis.*—Factors which contribute to nutritional enteritis in swine are: protein level of the ration, level or balance of other nutrients in the ration, over-all hog program, and antibiotic agents.—*Nutr. News Bull.* (Oct., 1950).

# EDITORIAL

## The A.M.A.'s Answer to Federal Aid for Medical Education

At the clinical session of the American Medical Association in Cleveland last December, the board of trustees announced that it had appropriated, out of the association's National Education Campaign Fund, a half million dollars for the aid and support of medical schools in need of additional financing. This amount will be given to the medical schools for their unrestricted use in their basic training of future physicians.

This memorable action is symbolic of the forthright attitude and effective action taken by the American Medical Association in its campaign against compulsory health insurance and other aspects of socialized medicine proposed by the federal government in various bills introduced in Congress in recent years. In the statement which accompanied the announcement, the A.M.A. board of trustees said that the appropriation to aid the medical schools was made possible by the widespread public co-operation which the profession has received from the American people in its campaign, that the fight against socialized medicine must go on until the issue is clearly and finally resolved, but that the pressure for regimentation of the medical profession had greatly lessened, owing to the fine public support it had received.

The statement went on to point out the growing public awareness that "federal subsidy has come to be a burden, not a bounty, for it is bringing intolerable increases in taxation and is dangerously increasing federal controls over our institutions and the lives of our people." Furthermore, "American medicine feels very strongly that federal aid for medical schools should not be sought unless all other means of financing have been exhausted."

The foregoing expressions, taken from an editorial in the Dec. 16, 1950, issue of *J.A.M.A.*, refers to legislation introduced in the 81st Congress to provide compulsory health insurance and to bills for "an emergency five-year program of grants and

scholarships for education in the fields of medicine, osteopathy, dentistry, dental hygiene, and nursing professions, and for other purposes." (See editorial, "Federal Aid to Veterinary Education?", in the February, 1950, *JOURNAL*, pp. 149-150.) The bills in question died in the last Congress but it is expected that they or their counterparts will be re-introduced in the 82nd Congress which convened January 3.

### SHOULD FEDERAL AID BILLS INCLUDE VETERINARY MEDICINE?

The reason for commenting again in these columns on federal aid to education in the fields of medicine is that the AVMA has been asked to use its influence for the inclusion of veterinary education in such legislation when and if it comes before Congress again. The request came from the Association of Deans of American Colleges of Veterinary Medicine and was considered at the winter meeting of the Executive Board. Although considerable activity was undertaken early last year to have veterinary medicine included in the Senate and House bills, the effort was fruitless, partly because the legislation did not come up for final consideration at which time suitable amendments for the inclusion of veterinary medical education might have been presented.

### SURVEY OF FINANCIAL STATUS OF VETERINARY SCHOOLS NEEDED

The extent to which educational institutions having veterinary schools really need additional financial support in order to carry on their programs is not known. It has been suggested that an authoritative survey of the financial structure of schools of veterinary medicine be made, similar to surveys already made or under way for medical and dental schools. The information gained by such a survey would do much to substantiate the case for federal subsidies to veterinary schools if such are needed. It would seem that the survey

might be made by a committee representing the Association of Deans of American Colleges of Veterinary Medicine, the AVMA Council on Education, and the Division of Veterinary Medicine of the Association of Land-Grant Colleges and Universities. Since all our veterinary colleges, with two exceptions, are located at land-grant institutions, it is understandable that it is the administrators of these institutions who are most concerned about the costs of veterinary education. Also, they are the ones who feel that federal aid to veterinary schools should be pressed to a successful conclusion if Congress provides such aid for schools in other medical fields.

The fact that 17 states now bear the expense of educating veterinarians for the whole country is, perhaps, one of the most valid arguments that would justify federal aid to the existing colleges of veterinary medicine in these states. The distribution of medical and dental colleges is more general, there being 32 states which have medical schools and 24 states and the District of Columbia which have dental schools. A definite movement to share the costs of veterinary education and to spread the benefits of existing facilities for training veterinarians on a regional basis was begun in the southeastern states in 1947 and became a fact in February, 1948, when the Southern Governors' Conference approved a compact constituting the signatory states as an area for regional education. (See JOURNAL, May, 1950, pp. 380-381.) The arrangements provide payments of \$1,000 per student per year by signatory states having no veterinary school to the four veterinary colleges designated to provide veterinary education to the students from other states, according to specified quotas. About a year ago, the Western Governors' Conference was held for the purpose of working out a similar arrangement for the western states.

#### FEDERAL SUBSIDY IS A MOOT QUESTION

Whether or not federal subsidies for education in general and for education in the professional fields, especially, is a coming necessity and ultimately inescapable, if the real needs for physicians, veterinarians, and other professional personnel are to be met, is a moot question. Certainly, the action of the American Medical Association is a very real effort to help preserve the

academic freedom of medical education in this country. In this connection, the A.M.A. board of trustees said (*loc. cit.*): "The Board hopes that this action will become a stimulus to other professions, industries, businesses, labor groups, and private donors to contribute to this very important cause of protecting and advancing interests of medical education and the public health."

In so far as this whole matter concerns veterinary education, and if we are to be intelligent and effective in providing for its financial support, the survey mentioned earlier seems to be what is needed first and foremost.

#### Office Consultation\*

Diagnosis has been, and must continue to be, the most important function of the practitioner; however, the veterinary profession has entered an antibiotic age. Treatment of many diseases has been greatly simplified by the introduction of sulfonamides and antibiotic agents. Some of these are not directly harmful to animals, so they are assumed to be safe in the hands of laymen. On this basis, some firms dealing in these products have made concerted efforts to impress stockowners with the safety and efficiency of these new agents. No longer are many of the complex preparations of an earlier period necessary in the treatment of animal diseases. Many of the old prescriptions contained narcotics and were extremely difficult to refill.

Because of these changes, there has been a growing tendency toward office consultation rather than country calls to see and study ailing animals. Good roads and the telephone have added to this tendency, as have the increasing use of various tests and reagents such as the bromthymol blue test card for mastitis, the nitroprusside capsule for acetone, and others. Such being the case, it is in order to ask: What is the office consultation picture in 1950?

The skill of the surgeon is still important but, to maintain a strong practice today, the veterinarian also needs to apply sound business methods.

When a client enters the office seeking

\*Excerpts from a paper by Dr. L. C. Swan, St. Catherines, Ont., presented before the conference of the Ontario Veterinary College, July 18, 1950.

advice on the treatment of calf scours, two alternatives are presented: (1) Discuss the problem with him and write a prescription which he may have filled at a drugstore or elsewhere; (2) consult with him and fill the prescription which you would otherwise write, being sure that the directions are explicit and within the understanding of the client.

The practitioner who does not have a dispensary connected with his office probably will find that after making a nominal charge for service and advice, the client will never again return to have the prescription renewed; instead, he will purchase the product from some other source. This is particularly true if the prescription involves the use of some well-known product such as the sulfonamides, penicillin, or streptomycin.

The practitioner with a dispensary, on the other hand, maintains contact with his clients and remains in a position to render a better and more complete service since the asking of a few questions will permit a much more accurate diagnosis than the owner himself could possibly make.

A recent example of stock losses caused by administering treatment without the advice of a veterinarian is the case of a Prince Edward County farmer who took his druggist a government bulletin which recommended a nicotine-copper sulfate mixture in the treatment of ovine parasites. The druggist complied with his request and the owner administered it to lambs. Ten lambs promptly died and the owner blamed the druggist; the druggist, however, had filled the prescription accurately.

The weak spot in this setup was the owner's utter disregard of the physical condition, age, and weight of the lambs. The experienced veterinarian would have inquired into these important factors and before dispensing the preparation would likely have made a point of looking over the flock, if in his mind there existed any doubt about their condition, or he certainly would have warned the owner that debilitated lambs are poor risks in worming. A similar condition could easily arise anywhere, because it is doubtful if any stock owner would seek the advice of his veterinarian about the use of an anthelmintic advised in a bulletin by an expert, particularly an experiment station veterinarian,

unless the owner were visiting the veterinarian to purchase the mixture. If no dispensary is maintained, the veterinarian has much less opportunity to render a service to stockowners because his clients will develop the habit of going elsewhere for supplies, and they also will seek and receive advice which is inferior to that which would be given by the veterinarian.

On the other hand, the veterinarian who has established a good dispensing practice must be constantly on the alert to avoid becoming a mere salesman; otherwise, the confidence of his clients will soon decrease. A client will not go out of his way to purchase penicillin bougies or other medicines from his local veterinarian if he feels the latter is not taking a personal interest in his problem. To keep the business of a client, it is necessary to do more than merely make a sale. That sale must be based on a real interest in his problem, and in conveying this information to the client, remember that he may have passed several places where he could have purchased whatever he needs before reaching the office of his veterinarian.

In response to the argument that the practitioner does not need to sell anything in order to give professional advice, I submit that while the statement may be true, it is much easier to sell advice if you have something tangible in the way of medicine to sell with it.

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Taking their cue from successes with antibiotic combinations and triple sulfonamides, allergists are using teams of antihistamine drugs in cases that fail to respond to a lone agent. Preliminary results have been encouraging.

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What's the cause of recent hog losses? This question was asked by Ralph S. Yohe in *Prairie Farmer* (Oct. 7, 1950). After discussing the possibilities of increased virulence of the hog cholera virus, decreased activity of serum, a variant or mutant virus, and a possibility of an entirely new disease, he reaches this conclusion: "Since every case is an individual problem, it is strongly suggested that you consult a competent veterinarian who is really in the best position to give you good advice."

# CURRENT LITERATURE

## ABSTRACTS

### Canine Leptospirosis

Results of experimental work indicate that one third of the dogs in the Lansing, Mich., area are possible reservoirs of *Leptospira* infection, and that the incidence of infection increases with the age of the dogs, while the ratio of male to female incidence of latent infection is approximately 2 males to 1 female.

Staining and cultural procedures were not considered reliable diagnostic methods. On the other hand, the agglutination test was approximately 50 per cent accurate after the second week of illness, and 100 per cent accurate after the third or fourth week.—[J. P. Newman: *Studies of Canine Leptospirosis. I. Evaluation of Laboratory Diagnostic Procedures. II. Serologic Determination of the Incidence of Latent Infection in the Lansing, Michigan Area.* Am. J. Vet. Res., 11, (Oct., 1950): 405-411.]

### Avian Leucosis

The incidence of visceral lymphomatosis was increased when the experimental birds were injected with estrogen and with androgen. Early losses were so great that the percentages are of doubtful significance. However, it is evident that the incidence was higher in females and in capons than in normal males, and that the increased susceptibility is a matter of hormonal imbalance rather than a specific effect of a lack or excess of either estrogen or androgen.—[O. S. Davis; F. N. Andrews; and L. P. Doyle: *Studies in Avian Leucosis. V. An Investigation of the Possible Relationship of Sex Hormones to Visceral Lymphomatosis.* Am. J. Vet. Res., 11, (Oct., 1950): 428-436.]

### Ultraviolet Radiation for Rumen Atony

The author believes that atony of the rumen is caused by increased tonus of the sympathetic system. It has been reported that ultraviolet radiation depresses the sympathetic system in man and dog. The area over the rumen was irradiated with a quartz mercury vapor lamp in 111 cases. Of 95 acute cases (1-5 days duration), 60 showed good results with one treatment of fifteen to thirty min.; 27 required two treatments; and 8 required three treatments. Cases of six to ten days duration required up to six treatments. Only 32 cases were treated with ultraviolet radiation alone; the others were starved for twelve to twenty-four hours with free access to water, and the rumen was massaged. Thirty-one cases also received 1 liter of 1.2 per

cent acetic acid or 1 per cent hydrochloric acid. At the beginning of ultraviolet treatment, the saliva of most animals changed in consistency from the thick viscous secretion characteristic of rumen atony, to a fluid condition. The rumen contractions were strengthened and often the animals began to ruminate. In several cases, the pulse rate was reduced 4 to 6 beats per minute.—[M. T. Skorodumov and N. G. Salomatina, *Novocherkassk Vet. Inst.: Treatment of Atony of the Forestomach of Cattle with Ultraviolet Rays.* Veterinariya, 27, (May, 1950): 40-41.]—R. E. H.

### Sulfamerazine in Fowl Typhoid

When sulfamerazine was fed at the rate of 0.4 per cent in the mash or as 0.2 per cent in the drinking water, it reduced losses caused by *Salmonella gallinarum* in chicks. The intermittent use of sulfamerazine or sodium sulfamerazine protected more chicks than the use of the same levels of the drug for seven consecutive days. Losses were severe during the first two days when treatment was delayed until fowl typhoid had become established.—[J. O. Alberts: *The Prophylactic and Therapeutic Properties of Sulfamerazine in Fowl Typhoid.* Am. J. Vet. Res., 11, (Oct., 1950): 421-425.]

### Digestive Efficiency in Dogs

The authors conclude that many dogs eat more food than they need for maintenance. Three common breeds of dogs were maintained effectively on 1 lb. of food daily for every 36 lb. of body weight. The greatest difference between dogs is in general activity, and this is highly correlated with food intake.—[W. T. James and C. M. McCay: *A Study of Food Intake, Activity, and Digestive Efficiency in Different Type Dogs.* Am. J. Vet. Res., 11, (Oct., 1950): 412-415.]

### Sulfamerazine in Fowl Cholera

Sodium sulfamerazine administered orally as 0.4 per cent in the mash or 0.2 per cent in the drinking water appeared to develop adequate blood-sulfonamide levels. The effect of such feeding was to reduce mortality in turkeys due to experimentally induced fowl cholera. After treatment ceased, the disease reappeared, but was again controlled by oral sodium sulfamerazine therapy.

When treatment was started after the symptoms were apparent, the losses were greatest during the

first two days of the treatment and then subsided.—[J. O. Alberts: *The Prophylactic and Therapeutic Properties of Sulamerazine in Fowl Cholera*. *Am. J. Vet. Res.*, 11, (Oct., 1950): 414-420.]

### Minerals of Wheat Plants

Wheat is capable of supplying the quantitative requirements of cattle for calcium, magnesium, and phosphorus. However, the ratio between water-soluble calcium and phosphorus does not favor maximum absorption of these two elements. Also, the ratio of magnesium to calcium is not such that it favors maximum absorption of calcium.—[Margret Stuart; F. G. Harbaugh; and Joe Dennis: *A Quantitative Investigation of Some Mineral Components of Wheat Plants*. *Am. J. Vet. Res.*, 11, (Oct., 1950): 400-404.]

### Reinfection of Chickens with Newcastle Disease Virus

Chickens hatched from susceptible hens and vaccinated at 3 weeks of age by intranasal inoculation, by direct contact, and by air-borne contact were reinfected with Newcastle disease virus fifty-one days following vaccination. The reinfection was subclinical and limited to the respiratory tract. It was not a serious cause of morbidity and mortality.—[E. R. Doll; M. Elizabeth Wallace; and William H. McCollum: *Reinfection of Chickens Vaccinated by the Intranasal Method with Live Bl Newcastle Disease Virus*. *Am. J. Vet. Res.*, 11, (Oct., 1950): 437-440.]

### Hematology of Weanling Thoroughbreds

A study of 70 Thoroughbred weanlings revealed the following mean values with their standard errors: erythrocytes per cubic millimeter,  $11.24 \pm 0.097$  million; hemoglobin grams per 100 ml. of blood,  $11.97 \pm 0.090$ ; leucocytes per cubic millimeter,  $13.64 \pm 0.246$  thousand; packed volume of erythrocytes,  $36.80 \pm 0.318$  per cent; mean corpuscular volume,  $32.72 \pm 0.187$  cubic microns; and a mean corpuscular hemoglobin concentration of  $32.53 \pm 0.138$  per cent.

The differential leucocyte counts showed the following mean percentages and standard errors: neutrophils,  $45.0 \pm 1.290$ ; lymphocytes,  $49.7 \pm 1.481$ ; monocytes,  $2.72 \pm 0.233$ ; eosinophils,  $2.3 \pm 0.203$ ; and basophils less than 0.1.—[M. F. Hansen, A. C. Todd, G. W. Kelley, M. Cavein, and W. R. McGee: *Studies on the Hematology of the Thoroughbred Horse. II. Weanlings*. *Am. J. Vet. Res.*, 11, (Oct., 1950): 393-396.]

### Hematology of Thoroughbred Stallions

A study of 36 Thoroughbred stallions showed the following mean blood values with their standard errors: erythrocytes per cubic millimeter,  $10.81 \pm 0.174$  million; hemoglobin, grams per 100

ml. of blood,  $1469 \pm 0.261$ ; leucocytes per cubic millimeter,  $8.27 \pm 0.245$  thousand; packed volume of erythrocytes,  $46.78 \pm 0.744$  per cent; mean corpuscular volume,  $43.16 \pm 0.290$  cubic microns; and a mean corpuscular hemoglobin concentration of  $31.33 \pm 0.121$  per cent.

The differential leucocyte counts showed the following mean percentages and standard errors: neutrophils,  $50.75 \pm 1.160$ ; lymphocytes,  $43.75 \pm 1.162$ ; monocytes,  $2.0 \pm 0.245$ ; eosinophils,  $4.0 \pm 0.277$ ; and basophils,  $0.5 \pm 0.077$ .—[M. F. Hansen; A. C. Todd; M. Cavein; and W. R. McGee: *Studies on the Hematology of the Thoroughbred Horse. III. Stallions*. *Am. J. Vet. Res.*, 11, (Oct., 1950): 397-399.]

## BOOKS AND REPORTS

### Annual Review of Microbiology

This book again attempts to adequately review a work which is too extensive for such an analysis. The book consists of 17 chapters, each by one or more authors who specialize in the particular field being discussed. The chapters vary in length from 14 to 34 pages, and each chapter lists a long tabulation of references which have been studied in order to abstract and condense the thoughts presented. There are 69 to 265 references listed for each chapter, and the aggregate of all references listed is more than 2,500.

When such a distinguished list of authors has reviewed such a gigantic group of references, it is folly to attempt a critical analysis of the information contained in the book. The best approach seems to be a listing of some of the subjects which will be of greatest interest to veterinarians. Among these will be found: electron microscopy of microorganisms and viruses, bacteriophages, the newer antibiotics, development of bacterial resistance to chemotherapeutic agents, chemotherapy of virus and rickettsial infections, immunologic reactions in viral diseases, tularemia, and brucellosis.

The general and specific information provided in the chapters of this book is of such a nature that no veterinarian can afford to be without this valuable reference volume on his shelf.—[Annual Review of Microbiology. Edited by C. E. Clifton, S. Rafael, and H. A. Barker. Vol. IX. Cloth, 383 pages. Annual Reviews, Inc., Stanford, Calif. 1950. Price \$6.00.]

### Hard Pad Disease

A revised and enlarged copy of "Hard Pad Disease (Para-Distemper)" has just been released. This excellent leaflet was reviewed in the December, 1950, JOURNAL, page 482.—[Hard Pad Disease (Para-Distemper). By Dr. J. M. Young. Conna Lynn Cairn Kennels, Percy Gardens, Tynemouth, England. Paper. 8 pages. 1950. Price 50 cents.]

### Veterinary Entomology

This is a laboratory manual consisting of a series of questions or directives for student work. Following each question or directive there is space for the proper reply or information requested by the instructor.

The student who has filled in all the information, after having read the reference texts listed early in the book, will have a fund of information which will be valuable to him in everyday practice, because the questions cover all of the essential items in veterinary parasitology.—[*Veterinary Entomology, Veterinary Parasitology Laboratory Manual No. 1. Prepared by F. R. Koutz, Department of Veterinary Parasitology, College of Veterinary Medicine, Ohio State University. Revised, 1950. Paper. 76 pages, 8½ in. by 11 in. Lithoprinted by Edwards Brothers, Inc., Ann Arbor, Mich. No price listed.*]

### Veterinarians at Work

This is the name of a leaflet of eight pages, mostly pictures showing how the Army Veterinary Corps has converted from the care of animals to the inspection of food products of animal origin.—[*Veterinarians at Work. Reprinted from the March, 1949, Army Information Digest. Armed Forces Information School, Carlisle Barracks, Pa.*]

### Veterinary Surgery

Dollar's Veterinary Surgery is so well known among veterinarians everywhere that there is little need to review the organization of the book, which follows the usual procedure. As was true of the previous editions, the book is complete from the standpoint of the operations which veterinarians are called upon to perform and the details of performing these operations. To the previous considerations have been added chapters on penicillin, the sulfonamide drugs, the new methods of anesthesia, blood transfusion, bone pinning, dehorning, and examination of horses for soundness.

Although the use of the sulfonamides, penicillin, and the several anesthetics changes with each passing month, the book is surprisingly modern and up-to-date as compared with the journal items appearing as additional experimental work is completed.

Americans are likely to take exception to the statement (p. 322) that "Direct transfusion of blood is a difficult and dangerous operation in veterinary patients, and is never advisable." A number of veterinarians have developed special procedures and techniques by which they are able to carry on direct transfusion without danger to the patient or the operator.

The book is printed on a good grade of paper, the type is legible and easy to read, the binding is exceptionally strong, and the book should prove a worthy successor to previous editions in the libraries of all veterinarians who perform surgical

operations.—[*Dollar's Veterinary Surgery, General, Operative, and Regional. 4th ed. Edited by J. J. O'Connor, Dublin, Ireland. Alexander Eger, Inc., 21 East Van Buren Street, Chicago. 1950. Price \$11.00.*]

### Diseases of the Foot and Hoof

The foreword takes cognizance of the fact that although horses are no longer as popular as formerly and the diseases of their feet are not important to so many people, nevertheless, they do form a very worth while part of the study of surgery.

In its several chapters, the book discusses the inflammations and inflammatory conditions of the hoof as well as the injuries, notably nail prick and calk wounds, and such problems as regeneration of the hoof. Each chapter is well illustrated to indicate the condition under discussion and the surgical procedure to be followed when and where indicated.—[*Leitfaden Der Huf-Und Klaue-Krankheiten. 2nd ed. By Dr. Melchior Westhusen (1st ed., by E. Moser.) Cloth. 293 pages. Illustrated. Ferdinand Enke Verlag, Stuttgart, Germany. 1950. Price 27 German marks.*]

### Medical Research

This is the third in a series of volumes devoted to methods and techniques. It deals with genetics of microorganisms, assay of neurohumors, selected psychomotor measurement methods, and methods for study of peptide structure. Each section is written by a separate author who is an outstanding authority in that field.

As indicated by the titles of the four sections and as was the case in the preceding volumes of the series, the material presented is of a highly technical nature and will deserve position on the reference shelves of research laboratories and in the private libraries of research workers. However, there is little application between the contents of the text and the problems of daily practice of veterinary medicine.—[*Methods in Medical Research. R. W. Gerard, editor-in-chief; S. E. Luria, J. H. Gaddum, W. R. Miles, and Chob Hao Li, associate editors. Cloth. 312 pages. The Year Book Publishers, Inc., 200 East Illinois Street, Chicago 11. 1950. Price \$7.00.*]

### Internal Diseases of Domestic Animals

This edition has been enlarged from the preceding one by including such subjects as jaundice, infectious gastroenteritis of pigs, hard pad disease of dogs, influenza of cats, and others. Additions and revisions throughout the book include incorporation of therapy with sulfonamides and penicillin, as well as other newer therapeutic agents.

As in the preceding edition, the general style of the book follows that of a textbook, and it is designed primarily for the use of students of

veterinary medicine. Diseases are arranged and discussed by organ systems and followed from the general textbook standpoint rather than from the point of view of the needs of a practicing veterinarian.

The book is published on an excellent grade of paper. The type is clear and easily legible and the book is profusely illustrated, some in color. Although the book is written in German and will therefore be restricted in its use among American veterinarians, it certainly deserves consideration as a reference text on the shelves of those members of the profession who are able to read and translate German and apply the teachings here presented in their daily work.—[*Lehrbuch der inneren Krankheiten der Haustiere einschl. der Hautkrankheiten, sowie der klinischen Seuchenlebte*. By David Wirth and Karl Diermbofer. Cloth. 1160 pages. Ferdinand Enke, Stuttgart, Germany. 1950. Price 89 German marks.]

#### Ohio Yearbook

This book presents the proceedings of the Ohio State Veterinary Medical Association meeting held at Columbus, Jan. 4 to 6, 1950. The book contains, in addition to reports of committees and minutes of the annual meeting, a list of the veterinarians licensed in the state of Ohio and their addresses. The report has been well edited and is pleasingly presented.—[*Ohio State Veterinary Medical Association Yearbook*, 1950. Edited by F. J. Kingma, Secretary, The Ohio State University, Columbus 10. Paper. 188 pages.]

#### Handling of Animals and First Aid

This handbook was prepared by the National Veterinary Medical Association of Great Britain and Ireland. It is written to train people in the application of first aid to animals which have been injured or which have become suddenly ill, and at the same time to impress upon them that they are rendering first aid and, therefore, have completed their work when the veterinarian appears to administer treatment. They should, however, remain on hand for instructions concerning after-care and repeated treatment.

Because much of the success in administering first aid depends upon proper approach and handling, the early chapters are devoted to those factors which must be observed in approaching, handling, and restraining animals for first aid treatment.

Next, there is a discussion of the personal qualities essential in a first aider, and then a discussion of the structures and functions of the body, so that any worker may have basic information of the normal organs and their normal functions. All these are fundamental to proper administration of first aid.

The book would certainly be helpful to veterinarians who are engaged in teaching high school

classes, Four-H groups, or other agencies in training young people to administer first aid to injured animals.—[*Handbook on the Handling of Animals and First Aid*. Issued by the National Veterinary Medical Association of Great Britain and Ireland, 36 Gordon Square, London, W.C.1. 1950. Price 5 shillings.]

#### REVIEWS OF VETERINARY MEDICAL FILMS

*Identification Techniques (of organisms causing dysentery in dogs and cats).*—Sound, 16 mm., black and white, running time about twenty minutes. Produced by Tele Paragon Pictures Co., Inc., in co-operation with, and available from, John E. Craige, V.M.D., P.O. Box 311, Seaside, Calif. Rental price \$50.00. Sale price \$250.

This film, in so far as the reviewers of this picture know, is an interesting experiment on the part of a practicing veterinarian and a commercial producer of films. Apparently, the producer believed that the information this practitioner was able to present would be of sufficient interest to veterinarians that they would be willing to pay the relatively high rental price. The only source of revenue to offset the expense of producing this type of film is from the rental and sale of copies. No doubt it is a speculative venture for the producer not unlike the publishing of a veterinary medical book. Since the volume of rentals and sales is quite naturally restricted, due to the comparatively small number of veterinarians who are primarily interested in small animal practice, the rental fee and sale price must be substantial if the producer is to "break-even" on the production. The film does provide an extremely pleasant and easy way to assimilate Dr. Craige's findings on the importance of certain organisms in dysenteries of dogs and cats.

Briefly, the film depicts Dr. Craige's method of arriving at the etiology of a dysentery. The importance of obtaining an accurate history and the use of fecal smears is emphasized. The use of the dark field illumination for discovering the causative organism is explained, as is the rest of the technique which Dr. Craige uses in his microscopic examination of fecal samples. The treatments of the various infections are also discussed and the viewer is referred to Dr. Craige's articles in the AVMA JOURNAL (Aug., 1948: 154-155; Sept., 1948: 247-249; Oct., 1948: 343-347; and June, 1949: 425-428). No doubt the film will be more valuable to a viewer who is familiar with Dr. Craige's writings on this subject.

Although the information presented by this film is interesting and well presented, the reviewers question whether many groups of veterinarians will choose to pay the rental fee. However, as mentioned before, the production of this picture is an interesting experiment and if a financial success for the producer it opens a new way in which veterinarians could have films produced.

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# THE NEWS

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## Eighty-Eighth Annual Meeting Milwaukee, Wis. — August 20-23, 1951

### *Veterinarian's Role in National Defense to Keynote Annual Convention*

The eighty-eighth annual convention of the AVMA, which will be held in Milwaukee, Wis., Aug. 20-23, 1951, will set a standard in program planning that will win the praise of every veterinarian who appreciates down-to-earth information keyed to the needs of the hour.

Here are two of the big things that will be

given emphasis in the general session, section meetings, and group conferences:

1) Latest developments in national defense organization as they pertain to veterinarians, including civilian defense aspects as well as military, and the effect they will have in molding the future of the profession. Prominent speakers will give



*Aerographic Corporation Photo*

Airview of downtown Milwaukee. The Milwaukee River, serving the industrial area with freight shipping, winds through the city into a region of country estates.

the convention last-minute information direct from Washington; special committees will offer suggestions to guide associations and individual members in fulfilling their defense obligation; group conferences of constituent association secretaries, public relations workers, and student chapter representatives will get detailed guidance on preparedness problems.

2) The scientific side of the meeting will focus on the general practitioner. Sections on small animals, general practice, surgery and obstetrics, research, poultry, and public health are now assembling speakers and subjects of maximum interest to general practitioners throughout the nation. Special attention also will be given to practice problems of particular concern to veterinarians in Wisconsin and adjoining states.

No group ever is considered "too small" to obtain the services of the AVMA staff in arranging sideline meetings during the convention. Zoo veterinarians, representatives of the various federal services, state veterinarians, women veterinarians, fraternal organizations, specialized scientific groups, and all others will be welcomed and accommodated in the best possible way. The Auditorium, which will be convention headquarters, has excellent facilities for group meetings of any size.

#### Committee on Local Arrangements

The Committee on Local Arrangements, gearing for the job of host to an expected 2,500 registrants, already has begun to make definite plans for the meeting. Housing, general entertainment, and other arrangements are getting first attention from the group, which comprises the following officers and committee heads:

*General Chairman*.—Dr. K. G. Nicholson, 2163 N. Farwell Ave., Milwaukee 2.

*Vice General Chairman*.—Dr. Walter Wisnicky, 315 Winnebago Drive, Fond du Lac.

*General Secretary*.—Dr. F. L. Gentile, 3618 W. Lisbon Ave., Milwaukee 8.

*Entertainment*.—Dr. G. J. Marold, 914 W. National Ave., Milwaukee.

*Exhibits*.—Dr. Gilbert Lewis, Box 552, Menomonee Falls.

*Garages, Parking, and Airports*.—Dr. C. W. Anderson, 914 W. National Ave., Milwaukee.

*Hotels and Housing*.—Dr. F. W. Milke, 5028 W. Bluemound Road, Milwaukee.

*Meeting Rooms and Equipment*.—Dr. Clyde D. Lyle, 920 Barstow St., Waukesha.

*Motion Pictures*.—Dr. J. A. Wilson, 639 Geneva St., Burlington.

*Publicity*.—Dr. Willis E. Lyle, University of Wisconsin, Madison.

*Reception and Hospitality*.—Dr. S. E. Ferguson, Logan Ave., Lake Geneva.

*Registration and Information*.—Dr. R. O. Anderson, 223 N. Wisconsin St., Elkhorn.

*Alumni Banquets*.—Dr. John T. Schwab, 3218 Oxford Rd., Madison 5.

#### MRS. E. A. WOELFFER HEADS WOMEN'S ACTIVITIES

Plans for entertaining women and teenagers are under the general chairmanship of Mrs. E. A. Woelffer, Oconomowoc. Mrs. C. A. Brandly, Madison, and Mrs. F. W. Milke, Milwaukee, are co-vice general chairmen. Reception arrangements will be directed by Mrs. R. O. Anderson, Elkhorn; Mrs. S. E. Ferguson, Lake Geneva, will be in charge of the women's tea; and Mrs. G. J. Marold, Milwaukee, will head the committee planning teenagers' events.

#### HOTEL RESERVATIONS NOW BEING ACCEPTED

Selected Milwaukee hotels—all within short, walking distance of the Auditorium—are now accepting reservations for the AVMA meeting. The city is placing its best housing facilities at the disposal of this convention, and there will be ample accommodations for everyone. However, reservations will be filled on a first-come, first-served basis, and those who delay may not get the kind of accommodations they want. For this reason, immediate reservations are urged. For names, rates, and locations of hotels, see advertising pages 34 and 35 of this issue, and be sure to use the form provided in submitting your request.

#### Report of Meeting of Executive Committee of AVMA Emergency Advisory Committee

All members of the Executive Committee of the AVMA Emergency Advisory Committee (see JOURNAL Dec., 1950, p. 484) and Dr. W. R. Hinschaw, chief of the Virology and Animal Disease Branch of the Biological Department of the Chemical Corps of Camp Detrick, met all day Nov. 21, 1950, in the AVMA conference room at 600 S. Michigan Ave., Chicago. The chairman and secretary had prepared the following agenda:

- 1) Review of the old Medical Civilian Defense Program—Dr. W. R. Krill.
- 2) Activities of A.M.A. Council on National Emergency Medical Service—Dr. C. D. Van Houweling.
- 3) Functions of the Health Resources Office of the National Security Resources Board as it pertains to veterinary medicine—Dr. Asa Winter.
- 4) Status of students and veterinarians under Selective Service—Dr. W. R. Krill.
- 5) Procurement of veterinarians for military duty—Dr. C. D. Van Houweling.
- 6) Unconventional attacks—Dr. W. R. Hinschaw.
- 7) Statement submitted to National Security Resources Board by AVMA staff.
- 8) N.R.C. and N.S.R.B. letters.
- 9) The organization and functions of the national and state committees.
  - a) Uniform questionnaire.
  - b) Preparation of a manual outlining prepa-

ration, training, and organization of veterinarians for coping with major disasters.

c) Other items.

10) Additional items from committee members.

The presentations by members of the Committee, No. 1 to 6 on the agenda, were primarily intended to provide background for the Committee's discussions. A complete report of the meeting, including the statements made, is being prepared in the AVMA office. In each case, the history of the activities pertaining to the matters on the agenda was discussed and a review of the present functions was outlined.

Item 7 pertained to a request from the Health Resources Advisory Committee of the N.S.R.B. for a statement outlining (1) the number of veterinarians in each state, (2) the minimum number of veterinarians required to maintain civilian veterinary medical services, (3) critical geographic areas or specialized fields from which veterinarians could not be taken without endangering civilian services, and (4) other pertinent data which the AVMA believes would be of value.

The information requested was furnished by the AVMA staff, but the deadline for the submission of the statement precluded sending advance copies to the entire Emergency Advisory Committee. In the statement filed, the number of veterinarians by states was given and the critical geographic areas or specialized fields were referred to only in a general way. (The staff members who prepared the material pointed out that it was beyond their ability or authority to designate the most critical geographic areas or fields until a comprehensive survey has been made.) The statement emphasized that there was a shortage of veterinarians and that major withdrawals of personnel from several fields would endanger the nation's health and welfare.

Under item 4, asking for other pertinent data, the increase in the schools and number of graduates since the war was emphasized and illustrated with a table and a graph.

The letter from the National Research Council and N.S.R.B. had been referred to the members of the Committee. Since our profession is represented by a consultant to the Health Resources Office of the N.S.R.B., it was not felt that representation through the National Research Council was of as great importance to the veterinary profession as to other scientific groups which are not as well organized. However, the secretary was instructed to reply to the letter and give the information requested.

The best possible organization of the national and state emergency advisory committees was discussed at length. Specific items and actions agreed upon were:

1) The development of a "model" questionnaire for the use of state emergency advisory committees in gathering essential information about the veterinarians in their state.

2) Approved the continuation of a project already begun by the AVMA staff, in cooperation with the BAI, to expand the Association's roster of veterinarians.

3) Approved a request to the N.S.R.B. for financial assistance in establishing a punch-card occupational classification of veterinarians.

4) Recommended that state veterinary committees approach the medical civil defense committees for adequate representation for veterinary medicine and possibly a subcommittee on the veterinary medical aspects.

5) Decided to postpone further action on a manual pertaining entirely to veterinary medical civil defense until the bulletin on medical civil defense, which has a section on veterinary medical aspects, is released by N.S.R.B.

6) Encouraged Dr. Van Houweling to meet with the Animal Industry Committee of the National Association of County Agricultural Agents to discuss how county agents and veterinarians might cooperate in civil defense activities, and

7) Endorsed whatever action might be necessary to have a veterinarian added to the Rusk Committees to Selective Service and the Health Resources Office of N.S.R.B.

#### Second Registration of Veterinarians

The director of Selective Service, on Dec. 28, 1950, scheduled the second registration of physicians, dentists, and veterinarians under Public Law 779 for Jan. 15, 1951.

All graduate veterinarians in the United States and its territories, except aliens and those who are in Regular or Reserve components of the Armed Forces who are not 50 years old by January 15, were and will be required to register with their local Selective Service boards.

The first registration under Public Law 779, on Oct. 16, 1950, pertained to veterinarians in categories 1 and 2 (see, JOURNAL, Oct., 1950, p. 342 for definitions of categories). The second registration pertains to those in categories 3 and 4.

At the time of going to press (Jan. 15), draft officials have not announced the procedure they will follow after the second registration, except that forms will be mailed to the registrant rather than being completed at the time of registration. If Selective Service orders the same procedure in processing this second group of registrants as for the first, the following will occur: (1) Eventually all registrants will be classified, usually 1-A, and notified of their classification; (2) registrants will have ten days to request a hearing or appeal for reclassification; (3) registrants requesting reclassification should offer to obtain for the local board a recommendation from the State Advisory Committee (all state associations have

emergency advisory committees and either the president or the secretary can furnish the name of the chairman); (4) after classification, all registrants will be ordered to take a preinduction physical examination; (5) after completing their physical examination, registrants will be notified of their 4-F classification, if they are not physically qualified; (6) registrants who are reclassified will be notified and others will be continued in 1-A.

#### ERROUNEOUS INFORMATION GIVEN TO REGISTRANTS

Unfortunately, army personnel have given registrants, in many instances, inaccurate, erroneous, and false information at the time of the preinduction physical examinations. Numerous members have reported to the AVMA office that personnel at the preinduction stations told those reporting for a physical examination that a negative answer to question 30 on Form 390 excluded them from further consideration for a commission. Also, they were told that they would all be drafted as recruits in January (presumably of 1951) and required to serve twenty-one months as enlisted personnel unless they received a commission via officers candidate school. Veterinarians were also told that they would receive the \$100 a month bonus pay for volunteering for commissions and active duty.

All three of the above statements are incorrect. Apparently, army personnel, in their zeal to get physicians, dentists, and veterinarians to apply for commissions, have not limited their remarks to facts. First of all, there has been no deadline announced for applying for a commission. Until there is, there will still be opportunities to apply. Second, there will be no inductions of veterinarians by Selective Service until the Department of Defense requisitions veterinarians. These requisitions will be based upon the need for veterinarians as officers in the Veterinary Corps of the Army or Air Force. Third, as previously announced in the JOURNAL (see Nov., 1950 issue, p. 435; Jan., 1951, p. 79), veterinarians do not now receive the bonus pay given to physicians and dentists, although the AVMA is continuing its efforts to have this obvious discrimination removed.

#### CLASSIFICATIONS

1-A classification does not necessarily mean that a registrant will be inducted. However, in the event of a call for veterinarians through Selective Service, it is logical to assume that selections for military duty will be made from registrants in the 1-A classification. Those who are classified 1-A, and were denied reclassification, should apply for commissions as officers. Those who have not requested reclassification and do not want to enter the service should request the local Selective Serv-

ice boards to reconsider their classification and obtain a recommendation from the state advisory committee.

The chairman and secretary of the AVMA Emergency Advisory Committee have recently sent to the chairmen of each State Emergency Advisory Committee a letter outlining what is believed to be the proper function and activities of state advisory committees. Members wishing additional information of this nature should contact the chairman of their state committee.

#### The Veterinarian and the Federal Income Tax\*

Ordinary and necessary expenses directly connected with a business or profession may be deducted from total income when computing federal income taxes.

When the veterinarian owns and lives in the same building that houses the office, he may depreciate the building and deduct expenses on the tax schedule to the extent of the portion of the building in which he carries on the practice, which can be based on area. If the practice occupies half the building, then half of the expenses are deductible.

It is suggested that small instruments that will get lost or broken be charged to expense in the year paid. All other equipment should be capital items and written off over a period of five to ten years.

*List of Deductions.*—If books are kept on a cash basis, the following items should be deducted from income at the time they are paid:

Compensation, rent, light, heat, telephone; repairs.

Taxes (real estate, personal property, certain sales tax, state income and social security tax); insurance premiums; subscriptions to magazines; professional society membership; legal and accounting fees.

Auto expenses (gas, oil, repairs, insurance, depreciation, etc.—only to extent used in earning income, *i. e.*, if the car was driven 15,000 miles during the year and 10,000 of them were in professional calls, then 2/3 of the expenses are deductible).

Depreciation—wear on capital items used in business, such as equipment that is not written off to expense in year of purchase; interest expense; stationery, printing, postage, and other office expense.

Traveling expenses (if longer than one day, meals, lodging, etc. can be included); entertainment of clients, when directly related to one's business; convention expenses, including travel expense thereon; country club expense—such portion as is a definite professional asset to you.

Bad debts—only if included in income; casualty losses, even if not a business loss such as

\*This information was prepared by Frank T. Moloney, auditor of the AVMA.

boiler explosion, fire, flood, and freezing damage not reimbursed by insurance.

And don't forget—extra exemptions for taxpayer over 65 years of age and also extra exemption for wife over 65 years.

#### Nominations for Special Election in Executive Board District X

The polls for nomination of candidates for election of a member of the Executive Board in District X (Michigan and Ohio), to succeed the late Dr. B. J. Killham, closed on Jan. 8, 1951. Dr. W. A. Young, of Chicago, and Mr. J. J. Shaffer, of the AVMA staff, served as tellers to count the ballots and certified the following nominees:

Dr. Wade O. Brinker, East Lansing, Mich.  
Dr. Chester F. Clark, East Lansing, Mich.  
Dr. Walter R. Krill, Columbus, Ohio

Dr. Louis H. La Fond, Detroit, Mich.

Dr. Russell A. Runnels, East Lansing, Mich.

Election ballots were mailed on Jan. 12, 1951, to all members in the district. The polls will close on March 11. The successful candidate will represent the district for the unexpired term ending in 1954.

#### Pullorum Conference in North Central States

Following numerous suggestions, a pullorum disease conference for the North Central States was held at University Farm, St. Paul, Minn. Sept. 19 and 20, 1950. The meeting followed the pattern set by the Northeastern Conference on pullorum disease.

Dr. B. S. Pomeroy served as chairman for the conference and Dr. J. E. Williams, also of Minnesota, was secretary.

The discussion centered around standardi-

#### Christmas Party Sponsored by Executive Board Members for AVMA Office Staff, Dec. 22, 1950



Left, clockwise around the table—Mr. James Calloway, circulation department; Mrs. Virginia Crotin, subscription department; Dr. W. A. Young, AVMA treasurer; Mrs. Mary B. Sanem, directory department; Mr. J. J. Shaffer, public relations department; Miss Roselyn Zirlin, secretary; Mrs. Dorothy Yates, applications; Dr. R. C. Klussendorf, editor-in-chief of AVMA publications; Mrs. Eve G. Bailey, editorial assistant; Mrs. Evelyn Brewington, financial secretary and chief clerk; Dr. C. D. Van Houweling, assistant executive secretary; Mrs. Helen S. Bayless, assistant editor and advertising manager; Mrs. Jean Foreman, circulation department; Mrs. Jane Hebert, secretary; Mrs. Elaine T. Bell, editorial assistant.

Executive Secretary J. G. Hardenbergh and Editor Emeritus L. A. Merillat were not present when the picture was taken.

zation of antigen with comparisons of strains and techniques between the several laboratories located within the North Central States. In addition to papers, there were laboratory demonstrations of the whole blood and tube tests and the techniques used. These emphasized the suspicious and questionable reactions responding from paratyphoid infection and the variant forms of pullorum. There were also demonstrations of the methods of typing of isolates for standard or variant forms.

In 1951, the meeting will be held at Ames, Iowa, with Dr. C. D. Lee acting as chairman and Dr. P. C. Bennett, secretary.

#### AVMA Research Fellows

B. F. Hoerlein, born July 2, 1921, at Fort Collins, Colo., was educated at Colorado A. & M. College (D.V.M., 1943). He engaged in graduate work in comparative pathology at the University of California in 1947, and joined the staff of Alabama Polytechnic Institute, small animal



Dr. Benjamin F. Hoerlein

clinic, 1948. From time of graduation until he went to California, he served with the Veterinary Corps of the U. S. Army.

#### PLAN OF THE PROJECT

In working on his AVMA research fellowship at the New York State Veterinary College at Cornell University, Dr. Hoerlein is presently studying the rupture of the intervertebral disc (nucleus pulposus) in the dog. Attempts will be made to produce the condition experimentally, and if this is possible the ruptured disc will be studied from the aspects of incidence, symptomatology,

diagnosis, contrast radiography and bipolar stimulation of ventral spinal nerves, pathogenesis, treatment, prognosis, and anatomical studies. It is anticipated that the treatment will center around the surgical approach involving either hemilaminectomy or total laminectomy. The techniques of hemostasis, exposure, and correction, together with immobilization, probably by the use of bone grafts and/or plates, will also be studied.

This is an important problem in the field of small animal practice and it is anticipated that the results will be satisfactory, not only from the standpoint of basic research, but also from that of providing information which can be used by practitioners everywhere.

#### Last Minute Military Developments

Veterinarians representing the AVMA and official agencies attended a meeting of representatives from the state volunteer advisory committees to Selective Service in Washington, D.C., on Jan. 12-13, 1951. The Rusk National Advisory Committee to Selective Service called the meeting which was designed to clarify the duties and functions of the advisory committees to Selective Service.

After an opening general session, representatives of the medical, dental, public health, and veterinary medical professions had group meetings and submitted reports to the general session the following day. A complete review of this meeting and the veterinarian's section report will be furnished to the chairmen of the emergency committees appointed by the state associations, and will also be published in later issues of the JOURNAL.

The report from the veterinary medical group stressed the following:

- 1) that veterinarians who are members of state Selective Service volunteer advisory committees should be authorized to attend similar meetings in the future;
- 2) that veterinarians be added to all state volunteer advisory committees to Selective Service;
- 3) the veterinary medical emergency committees should assist in selecting veterinary Reserve officers for active duty, as is planned for medical and dental Reserves (as outlined by a memorandum from the Department of Defense to branches of the Armed Forces entitled "Call to Active Duty of Reserve Doctors");
- 4) that the national committee plan for the military utilization of veterinarians, who are not veterans, at the time of graduation; and
- 5) that a plan of rotation of veterinarians from military to civilian duties be developed.

#### WOMEN'S AUXILIARY

**Mrs. Runnels, Second Vice-President.**—Mrs. Russell A. Runnels, East Lansing, Mich.,

second vice-president of the Women's Auxiliary to the AVMA, will be remembered as the very efficient and gracious chairman of women's activities at the AVMA convention in Detroit in 1949. Last year in Miami Beach, she served



Mrs. Russell A. Runnels

as recorder for the House of Representatives of the Auxiliary. Mrs. Runnels has also served as president of the Women's Auxiliary to the Michigan State Veterinary Medical Association, and has acted as faculty adviser for the Junior Auxiliary at Michigan State College.

As second vice-president, she is responsible for the projects of the Auxiliary, including the student loan fund which assists a veterinary student each year in any of the accredited schools. A student may borrow up to \$200.00 at 4 per cent interest. A more recent project is the senior award of \$25.00 which is made to the senior student each year in each of the accredited schools, who has made some outstanding contribution which advances the standing of the veterinary school on the campus. Another project is to assist in the advancement of the science and art of veterinary medicine. A leaflet listing the many ways in which a veterinarian can serve his community is available for distribution to interested persons. Mrs. Runnels, because of her experience in the work she has done in both the state and national auxiliaries is well qualified to have charge of these projects, and the Women's Auxiliary to the AVMA is fortunate to have her serve in this capacity.

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**Southern Association Auxiliary.**—During the annual meeting of the Southern Veterinary Medical Association at the Baker Hotel in Dallas, Nov. 6-8, 1950, 148 wives registered as guests of the Women's Auxiliary to the State Veterinary Medical Association of Texas. Mrs.

G. A. Brock and wives of Dallas County veterinarians were in charge of local arrangements and are to be commended for an excellent social program which included a "chuck wagon" buffet dinner followed by a square dance, an ice show and style show, a "Texas brags" breakfast, and the President's Ball.

Mrs. R. L. Rogers, president of the Texas auxiliary, welcomed the guests of honor, our national president, Mrs. Dennis Coughlin of Knoxville, Tenn., and Mrs. Taylor P. Rowe of Richmond, Va., president of the Auxiliary to the Southern Association. Mrs. Coughlin encouraged members to take an active part in the Auxiliary. She emphasized the fact that each member shares in the responsibility of selecting capable and qualified officers to serve as leaders, and that it is the duty of each individual to cooperate with the elected officers.

Delegates were appointed to attend the next annual AVMA Auxiliary meeting in Milwaukee in August of 1951.

A vote of thanks was extended to the Dallas committee for the warm southern hospitality accorded the group.

The Texas auxiliary voted to give \$50.00 to the library of the A. & M. College of Texas.

Mrs. L. G. Cloud of Fort Worth, delegate from Texas to the national meeting in Miami Beach, gave her report. She advised that Texas is the only state which is preparing a roster, writing a history, and revising their constitution and by-laws this year.

Local auxiliaries giving reports of this year's activities and projects included the following: Dallas, West Central, East Texas, Houston, Southeast, and South Central.

Officers elected for the coming year are Mrs. Jack O. Whitehead, Houston, Texas, president; Mrs. Charles Koberg, San Angelo, Texas, president-elect; Mrs. I. B. Boughton, College Station, Texas, vice-president; Mrs. Charles Folse, Kemah, Texas, secretary-treasurer; Mrs. A. H. Palms, Dallas, Texas, corresponding secretary. *s/(Mrs. R. C.) BETTY BASS, Publicity Chairman, Texas Auxiliary.*

## U. S. GOVERNMENT

**Opportunities for Veterinarians in Federal Service.**—Veterinarians are urgently needed by the Bureau of Animal Industry of the U.S. Department of Agriculture in its Federal Meat Inspection Service. This service is charged with the responsibility of protecting the public's health by insuring it a wholesome meat supply. The salary, \$3,825 a year (grade P-2) is based on a forty-hour work week, and examinations for the positions are open until further notice.

Information and application forms may be obtained from the U.S. Civil Service Commission, Washington 25, D.C., or the Bureau of

Animal Industry, U.S. Department of Agriculture, Washington 25, D.C.

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**Veterinary Personnel Changes.**—The following changes in the force of veterinarians in the U. S. Bureau of Animal Industry are reported as of Dec. 1, 1950.

#### NEW APPOINTMENTS

Don T. Balentine, Fort Worth, Texas.  
 John F. Boswell, Chicago, Ill.  
 Robert M. Clark, Indianapolis, Ind.  
 Stewart J. Couger, Augusta, Maine.  
 William Craig, South St. Joseph, Mo.  
 Ostap E. Dutkiewicz, Chicago, Ill.  
 Jim G. Filson, Cleveland, Ohio.  
 Laurel M. Hade, San Francisco, Calif.  
 Harold C. McCorkle, St. Louis, Mo.  
 William J. Minor, South St. Paul, Minn.  
 Howard H. Mishkin, Chicago, Ill.  
 Terrell B. Ryan, Augusta, Maine.  
 Lafe J. Waterbury, Madison, Wis.  
 Seymour L. Weill, Columbus, Ohio.

#### RESIGNATION

Robert D. Lamser, Mexico City, Mex.

#### TERMINATION

George Jerome, Milwaukee, Wis.

## APPLICATIONS

*The listing of applicants conforms to the requirements of the administrative by-laws—Article X.*

#### First Listing

BUNNELL, ORVAL E.  
 Box 132, Worland, Wyo.  
 D.V.M., Colorado A. & M. College, 1942.  
 Voucher: J. Browne.

CORCORAN, JOHN R.  
 1934 6th Ave., Scottsbluff, Neb.  
 D.V.M., Colorado A. & M. College, 1939.  
 Voucher: O. Geisler.

ELLIOTT, A. REDMOND  
 P.O. Box 644, Camrose, Alta.  
 D.V.M., Ontario Veterinary College, 1950.  
 Vouchers: T. L. Jones and F. J. Cote.

GREEN, WILLIAM S.  
 Rt. 1, Box 222, Mercer Island, Wash.  
 D.V.M., Colorado A. & M. College, 1943.  
 Voucher: J. L. Ellis.

JARVIS, CARL H.  
 Box 562, Chatham, N.B.  
 D.V.M., Ontario Veterinary College, 1949.  
 Voucher: L. S. Doyle.

KEANE, HENRY J.  
 Box 1487, Cristobal, C.Z.  
 D.V.M., Michigan State College, 1940.  
 Voucher: K. C. Zimmerman, Jr.

KENNEDY, CHESTER H.  
 884 7th St., Elko, Nev.  
 D.V.M., Kansas State College, 1940.  
 Voucher: E. Records.

LARSON, LEONARD A.  
 West Liberty, Iowa.  
 D.V.M., Iowa State College, 1947.  
 Voucher: F. B. Young.

LUGATE, THOMAS B.  
 Flandreau, S. Dak.  
 D.V.M., Iowa State College, 1943.  
 Voucher: R. M. Scott.

KRAL, FRANTISEK  
 4114 Pine St., Philadelphia 4, Pa.  
 M.V.D., School of Veterinary Medicine, Vienna, Austria, 1914.

Voucher: R. C. Snyder.

PROPP, GEORGE J.  
 1403 N. Monroe Ave., Loveland, Colo.  
 D.V.M., Michigan State College, 1943.  
 Voucher: J. W. Harrison.

SCORELL, ELGIN S.  
 137 W. Washington, Wausau, Wis.  
 D.V.M., Iowa State College, 1949.  
 Voucher: B. A. Beach.

#### Second Listing

ARMAS, JOSE L., Rua da Garoupinha 24, Angra do Heroismo, Terceira, Azores.

CHAMPLIN, JOHN B., 918 Moreau Dr., Jefferson City, Mo.

DANFORTH, ARTHUR L., 2217 Kensington Ave., Snyder, N.Y.

HERRERA, MANUEL OLVERA, Av. Juarez No. 46, Tacuba, D. F., Mexico.

JOHNSON, MORRIS M., R. D. 1, Hudson, N.Y.

NACHTRIEB, MELVIN J., Box 288, Salida, Colo.

OTTESON, OSCAR A., Waunakee, Wis.

PUNTRIANO, GUILLERMO O., Calle San Martin 432, Miraflores, Lima, Peru.

SCOTT, VERNE A., Sr., Stephenville, Texas.

SIBLEY, HOBART Q., Rt. 4, Robstown, Tex.

STONE, PERRY, Box 319, Sebastopol, Calif.

#### Colorado A. & M. College

ZANDER, DONALD V., D.V.M., School of Veterinary Medicine, University of California, Davis, Calif.

#### Iowa State College

ANDERSON, DONALD M., D. V. M., Box 474, Bedford, Iowa.

CAHALAN, LEO J., D.V.M., 318 W. Main St., Mt. Horeb, Wis.

## AMONG THE STATES AND PROVINCES

#### Arkansas

**Personal.**—Captain J. A. Pulliam, USAF, V.C., formerly state resident secretary for the AVMA and secretary of the state association, resigned both positions when he was appointed base veterinarian at Perrin Air Force Base, Sherman, Texas.

**Delaware**

**State Association.**—The annual meeting of the Delaware Veterinary Medical Association was held in the Paddock, just north of Smyrna, on Dec. 15, 1950. The following literary program was presented.

Dr. C. A. Woodhouse, Wilmington: "Report on the 1950 AVMA Meeting."

Dr. Harold Roberts, Newark: "Report on Postconvention Tour to Cuba."

Dr. Wm. C. Glenney, Ardmore Animal Hospital, Ardmore: "Modern Mixed Practice" (with illustrations).

Dr. S. F. Scheidy, Drexel Hill, Pa.: "Antibiotic Therapy in Veterinary Medicine."

The film "Unhung Rustlers" was shown through the courtesy of Cutler Laboratories.

At the business meeting, the following officers were elected: Drs. E. L. Symington, Newark, president; and C. A. Woodhouse, Wilmington, secretary-treasurer. Members of the Executive Board are Drs. L. S. Manogue, Seaford; J. R. West, Milford; J. L. Cherry, Dover; R. Sarde, Smyrna; H. Roberts, Newark; and Geo. Rosenberger, Wilmington.

s/ERNEST L. SYMINGTON, *Secretary*.

**Illinois**

**Chicago Association.**—Dr. Leroy Johnson, Department of Veterinary Surgery, The Ohio State University, Columbus, discussed "The Liver Function Test and Its Application to Practice" at the Dec. 12, 1950, meeting of the Chicago Veterinary Medical Association in the Palmer House. This was a report of work done by Dr. Johnson under the AVMA Research Fellowship at the Mayo Foundation, Rochester, Minn.

s/ROBERT C. GLOVER, *Secretary*.

**Iowa**

**Cedar Valley Association.**—The Cedar Valley Veterinary Association meets at Black's Tea Room in Waterloo the second Monday of each month, except that it holds no meeting during July and August. The following officers were elected at the June 12 meeting: Drs. C. B. Strain, DUNKERTON, president; C. G. Moore, Toledo, vice-president; F. E. Brutsman, Traer, secretary-treasurer.

s/F. E. BRUTSMAN, *Secretary*.

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**Dr. Reid Retires.**—Dr. Fred E. Reid (CVC '13), Washington, Iowa, has retired after thirty-four years of practice in Washington. Dr. Reid recalls that one of the most pleasant things about his career has been the happy association with other members of the profession. He is a member of the Iowa State Veterinary Medical Association and of the AVMA. Dr. D. W. Gregory (KSC '49), who has worked in partnership with Dr. Reid since receiving his D.V.M. degree, has purchased the practice.

**Personal.**—The Department of the Army announced recently the promotion of Capt. Lloyd V. Fry (ISC '37) to the rank of lieutenant colonel, U.S. Army, Veterinary Corps.

Colonel Fry is the son of Dr. and Mrs. Harry J. Fry, Kalona. He is an overseas veteran of World War II, and is presently serving as veterinary consultant to the Surgeon General's Office, Washington, D.C.

s/GRANT B. MUNGER.

**Kansas**

**State Association.**—The forty-seventh annual convention of the Kansas Veterinary Medical Association was held at the Allis Hotel, Wichita, Jan. 17-19, 1951. The scientific program follows.

Dr. Lewis E. Harris, Lincoln, Neb.: "Newer Chemotherapeutic Agents and Poultry Therapeutics."

Dr. Earl J. Splitter, Manhattan: "Eperythrozoonosis—Anaplasmosis-like Disease of Swine."

Dr. Wayne H. Riser, Skokie, Ill.: "Modern Small Animal Practice."

Dr. O. F. Reinhart, Omaha, Neb.: "Value of the Blood Picture."

Dr. Jay Reynolds, Great Bend, was moderator of a question and answer session.

Dr. John Cady, Arlington, Neb.: "Beef Cattle Practice."

Dr. C. C. Moore, Springfield, Mo.: "Dairy Cattle Practice."

Dr. Fayne Oberst, Manhattan: "Kansas Artificial Breeding Program and Breeding Problems."

At the banquet, Mr. Jack Culbreath, education director, Colorado Fish and Game Commission, Denver, Colo., showed a motion picture. The film "Veterinary Public Relations and Economics" was shown during the scientific sessions.

s/O. W. MORRIS, *Secretary*.

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**Meat Inspection.**—The 54 meat and poultry plants in Kansas that have veterinary inspection employ 43 veterinarians. During the fiscal year 1950, 42,578,337 lb. of meat and 2,090,672 lb. of poultry were inspected. Fees paid for inspection service amounted to \$43,235.96.

**Kentucky**

**State Association.**—The twenty-fourth annual conference for veterinarians, sponsored by the University of Kentucky, Lexington, was held Dec. 6-7, 1950, at the agricultural experiment station. The following scientific program was presented. Speakers not identified are members of the faculty of the University.

Dr. E. R. Doll: "Hemolytic Icterus."

The Honorable Harry F. Walters, commissioner of agriculture, Kentucky Department of Agriculture: "Progress in Brucellosis Control." Mr. Walters stated that Kentucky has become a dumping ground for diseased livestock, in spite of the

fact that state police have cooperated with the commissioner and his agents. Appropriations have been insufficient to do a complete job of protecting Kentucky herds and flocks, and many of the stockyards allow infected stock to pass through them. Mr. Walters believes that 40 stockyards could operate more efficiently than the 80 now in existence in the state.

Dr. A. C. Todd: "Controlling Animal Parasites."

Dr. W. C. Johnstone: "Pasture Improvement."

Dr. J. W. Finlay, Richmond: "Foot-and-Mouth Disease."

Dr. K. R. Reinhard: "Leptospirosis in Cattle."

Dr. Frank Thorp, Jr., Michigan State College, East Lansing: "Diseases of Sheep" and "Nutrition and Its Relation to Swine Enteritis."

The films "Waves of Green" and "Lungworm Disease in Cattle" were shown.

s/T. J. STEARNS, Resident Secretary.

ROSS BROWN, Secretary, K.V.M.A.

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**The Farmer Says Grace.**—This is the title of a small booklet sent to the AVMA staff with holiday greetings by T. J. Stearns, Louisville. It includes the prayers written as editorials for *Breeder's Gazette* and originally printed in "Sam Guard's Roundup" as the opening words of each issue during 1950.

#### Louisiana

**Dr. Upp Receives Appointment.**—Dr. Charles W. Upp, head of the poultry department at Louisiana State University, was appointed to the Ralston Purina Fellowship Committee.

#### Massachusetts

**Course Offered in Food Technology.**—To define and examine recent scientific developments important to the industry, a special program in food technology will be offered at the Massachusetts Institute of Technology during the summer session of 1951, from June 25 to July 13.

Enrollment in the course will be limited and early registration is advisable. Preference will be given to applicants having a background of technical or executive experience in food industries, faculty members of other schools, government workers in food control or nutrition, and advanced students in chemistry and engineering. Letters of application, including appropriate details regarding experience and background, and requests for further information should be sent to Professor Walter H. Gale, director of the summer session, Room 3-107, Massachusetts Institute of Technology, Cambridge 39, Mass.

#### Michigan

**New Association Organized.**—On Nov. 3, 1950, veterinarians in the upper "thumb" dis-

trict of Michigan met in Sandusky to organize a new local group. Drs. Chester Clark, head, Veterinary Clinic, Michigan State College, and L. H. LaFond, Detroit, discussed the purpose and accomplishments of the local associations, emphasizing the opportunity they afford the local practitioner to study, comment, and assist in providing a state practice act to safeguard all interests concerned.

Officers of the new association are Drs. D. J. Ellis, Memphis, president; vice-presidents G. T. O'Dell, North Branch (representing Lapeer County); R. J. Drysdale, Mayville (Tuscola County); F. A. Colby, Sandusky (Sanilac County); Geo. A. Sturm, Bad Axe (Huron County); L. T. Dawe, Capac (St. Clair County); and Dr. L. R. Newlin, Romeo, secretary-treasurer.

s/PAUL V. HOWARD, Resident Secretary.

#### New York

**Conference for Veterinarians.**—The forty-third annual conference for veterinarians at the New York State Veterinary College, Cornell University, Ithaca, was held Jan. 3-5, 1951, at the College. The following program was presented. Only the guest speakers are identified.

Dr. R. W. Dougherty and R. E. Hungate: "Recent Studies on Digestive Disorders in Ruminants."

Dr. S. J. Roberts: "Continuous Intravenous Glucose Therapy for Acetonemia."

Dr. S. D. Johnson: "Paracolon Infection of the Bovine Udder."

Dr. J. Bentinck-Smith: "A Congenital Epithelial Defect in a Herd of Berkshire Swine."

Dr. H. L. Gilman: "The Ring Test in the Diagnosis of Brucellosis."

Dr. E. R. Frank, professor of surgery, School of Veterinary Medicine, Kansas State College, Manhattan: "Bovine Surgery."

Dr. F. H. Fox: "Clinical Aspects of Bovine Leptospirosis."

Dr. D. W. Bruner: "Hemolytic Icterus in the Foal."

Dr. E. W. Tucker: "Evaluation of the Newer Mastitis Treatments" and "Environmental Factors in Mastitis Control."

Dr. K. McEntee: "Pathologic Findings in Sterile Cattle."

Dr. S. H. McNutt, Department of Veterinary Science, University of Wisconsin, Madison: "Studies on Lowered Fertility in Dairy Cattle" and "Swine Diseases."

Dr. J. W. Rich: "Extirpation of Anal Glands."

Dr. G. C. Poppensiek: "Infectious Canine Hepatitis."

Dr. E. P. Leonard: "Complications with Plastic Fixation of Long Bones."

Dr. C. J. York and J. A. Baker: "A Virus Producing Elementary Bodies that Causes Infection in Cattle."

Dr. G. B. Schnelle, chief of staff, the Angell Memorial Animal Hospital, Boston: "Some Thoughts on Canine Geriatrics" and "X-Ray Interpretation, Including Newer Diagnosis."

Dr. R. C. Klussendorf, editor-in-chief of the AVMA publications, Chicago: "Veterinary Medicine Today."

Dr. H. E. Evans: "Poisonous Snakes and Their Relation to Veterinary Medicine."

Major W. S. Gochenour, Jr., V.C., Medical Service Graduate School, Army Medical Center, Washington, D.C.: "Public Health Aspects of Leptospirosis."

Dr. S. F. Scheid, veterinary medical director, Medical Research Division, Sharp and Dohme, Inc., Glenolden, Pa.: "Antibiotic Therapy in Veterinary Medicine."

Dr. H. C. Stephenson: "A Case of Diabetes Mellitus in a Dog."

Dr. L. Z. Saunders: "A Case of Diabetes Insipidus in a Dog."

The following symposium on "Virus Diseases of Animals" was presented: Dr. C. E. Van Rooyen, Connaught Laboratories, University of Toronto, Ontario: "Present Concepts of the Nature of Viruses"; Dr. C. A. Brandy, chairman, Department of Veterinary Science, University of Wisconsin, Madison: "The Diagnosis of Virus Diseases of Animals"; Dr. R. E. Shope, director, virus laboratories, Merck Research Institute, Rahway, N.J.: "Factors Involved in the Transmission and Propagation of Viruses"; Dr. Thomas Francis, Jr., chairman, Department of Epidemiology, School of Public Health, University of Michigan, Ann Arbor: "Immunity in Virus Diseases"; Dr. M. G. Finner: "The Need for Research on Virus Diseases of Farm Animals"; and Dr. R. B. McClelland, Buffalo: "The Need for Research on Virus Diseases of Pet Animals."

The dedicatory exercises for the Cornell Research Laboratory for Diseases of Dogs were held Friday afternoon, January 5.

s/w. A. HAGAN, Dean.

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**New York City Association.**—The regular meeting of the Veterinary Medical Association of New York City, Inc., was held in Skypoint of the Hotel Statler, Dec. 13, 1950. The motion picture "Life Cycle of *Diphyllobothrium Latum*" was shown, through the courtesy of the U. S. Public Health Service. Dr. E. L. Howes, M.D., professor of surgery, College of Physicians and Surgeons, New York City, spoke on "The Influence of Certain Steroids and Purines on Wound Healing."

The following guests were introduced: Drs. Edward Baker, John Goebel, Estelle Hecht, Irene Rachwalsky, Irving Stern, D. Poma-  
zansky, L. Michaud, and Mr. W. S. Anderson. Dr. S. B. Seader, Far Rockaway, was invited to become a member of the Association, and

Drs. Sol Mirin and Alvin Rothberg were announced as new members.

New officers of the Association are Drs. C. E. Fletcher, president-elect; and C. R. Schroeder, secretary-treasurer. Members elected to the Executive Committee are Drs. L. R. Barto, R. L. Burkhardt, and H. E. Grossman. Drs. S. Nathanson, A. North, I. Kraft, S. G. Penny, C. P. Zepp, Jr., J. A. Ward, M. W. Firestone, and F. O. Wright were elected to the Committee on Ethics.

s/c. R. SCHROEDER, Secretary.

### North Carolina

**Roanoke-Tar Association.**—The Roanoke-Tar Veterinary Medical Association, a local association for northeastern North Carolina, held its regular monthly meeting at Rocky Mount on Dec. 1, 1950, with 25 veterinarians in attendance. The following officers were elected: Drs. Jap C. Allen, Rocky Mount, president; B. H. Brew, Weldon, secretary.

s/j. H. BROWN, Resident Secretary.

### Ohio

**Veterinary Students Commissioned in Air Force Reserve.**—Three senior students in the College of Veterinary Medicine at Ohio State University were sworn in as second lieutenants in the U.S. Air Force Reserve Oct. 3, 1950. The students who received their commissions were Charles Reed, of Columbus; Leslie Seig-



—Ohio State University Photograph

Fig. 1.—Veterinary students being sworn in as second lieutenants in the U.S. Air Force Reserve. Left to right—Captain J. W. Lewandowski, Charles Reed, Donald Ringley, Leslie Seigneur, Col. Merwin E. Potter, Air Force R.O.T.C. (OSU), and Col. C. E. Robinson, veterinary R.O.T.C. officer.

neur, Wauseon; and Donald Ringley, Clinton. These men are the first to be selected from the Ohio State University under the senior air force program; upon graduation, they will be commissioned as second lieutenants in the U.S. Air Force Reserve (V.C.) and will enter on extended active duty for a period of not less than two years.

The ceremony took place in the office of Dean Walter R. Krill, and the oath of office was administered by Captain Joseph W. Lewandoski, adjutant in the First Air Force. It was witnessed by Colonels Carlos Brewer, Alfred B. Devereaux, Forrest L. Holycross, U.S. Army, and Lt. Colonels Merwin E. Potter, Charles E. Robinson (U.S.A.F.), V.C., and Lieutenant Thayer of the U.S. Air Force.

This program was open to all eligible senior students enrolled in approved colleges of veterinary medicine. The applicants must be qualified physically for active military service and be between the ages of 21 and 32. The students must have successfully completed the junior year of veterinary medicine, and be eligible for the senior year, and at the time of appointment must be enrolled in their senior year.

#### Pennsylvania

**Bucks-Montgomery Association.**—Dr. Earl Cook, Philadelphia, discussed "A Laboratory Program in Dairy Bacteriology" at the Dec. 13, 1950, meeting of the Bucks-Montgomery Veterinary Medical Association at the Moose Hall in Doylestown.

s/V. W. RUTH, *Secretary*.

#### Rhode Island

**Dr. Delaplane Honored.**—Dr. John P. Delaplane (OSU '29), Kingston, was honored Dec. 5, 1950, at a testimonial dinner sponsored by two poultry associations and the Rhode Island State Veterinary Medical Association. On Dec. 15, Dr. Delaplane joined the staff of the School of Veterinary Medicine of the A. & M. College of Texas as professor and head of the Department of Veterinary Bacteriology and Hygiene.

s/JOSEPH S. BARBER, *Resident Secretary*.

#### Tennessee

**East Tennessee Society.**—The East Tennessee Veterinary Medical Society met in Knoxville on Dec. 9, 1950. About a dozen veterinarians arrived early, at the invitation of Dr. Dennis Sikes, to witness an autopsy on a calf with extensive x disease. The film "Golden Rule for Veterinarians" was shown and various case reports were presented. At the business meeting, the following officers were elected: Drs. Dennis Sikes, Knoxville, president; Geo. E. Eason, Kingsport, vice-president; and W. F. Sims, Knoxville, secretary-treasurer.

s/D. COUGHLIN, *Resident Secretary*.

#### Texas

**Dr. Delaplane Joins Staff of A. & M. College.**—On Dec. 15, 1950, Dr. John P. Delaplane joined the staff of the School of Veterinary Medicine of the A. & M. College of Texas as

professor and head of the Department of Veterinary Bacteriology and Hygiene.

s/I. B. BOUGHTON, *Dean*.

#### Vermont

**State Association.**—On Dec. 7, 1950, the Vermont Veterinary Medical Association held its annual winter meeting at Happy Acres Inn in Burlington. About 40 veterinarians were present to hear Dr. W. S. Stone, New York Department of Health, discuss "Rabies Control." Dr. Stone, who is in charge of the rabies control program in New York, explained that the disease is spreading over wider areas and is affecting foxes and cattle as well as dogs and other domestic animals. As yet it has not been reported east of the Hudson River. This may occur at any time, in which case the disease would most probably enter Vermont. At the present time, there are no known areas of infection in this state.

A resolution was passed making Dr. Guy N. Welch, Northfield, an honorary life member of the Association. Dr. Welch for many years served as association secretary-treasurer as well as resident secretary for the AVMA. He has been a member of the Vermont Association for forty-two years and was a charter member of the organization as it is now organized.

Officers elected for the ensuing year are Drs. D. A. Walker, Morrisville, president; J. E. Wheeler, St. Albans, president-elect; N. H. Cox, Rutland, vice-president; and W. D. Bolton, Burlington, secretary-treasurer.

s/W. D. BOLTON, *Resident Secretary*.

## FOREIGN NEWS

#### Colombia

**Rabies in Cattle.**—A serious outbreak of rabies has appeared among cattle in the Department of Antioquia. Within a few days after the appearance of the disease, more than 50 cattle had died. The infection is spreading rapidly and, at latest reports, is present in the *municipios* of San Jeronimo, Itagui Rio Negro, Titiribí, Barbosa, San Pedro, Las Estrella, Caldas, and Medellin.

Dogs are known to be spreading the epizootic and orders have been issued to destroy all stray dogs in the area and to vaccinate all others.

s/I. M. EITREIM, *Agricultural Attaché, Bogota*.

#### Germany

**Professor Paul Koch Moves.**—Professor Paul Koch has left his post in the Soviet-dominated Berlin University, according to word which Dr. L. Z. Saunders (ONT '43) has received from C. G. Anthon, higher education advisor to the Berlin Element, Education and Cultural Relations Branch. The letter states further, "With

him are approximately 200 veterinary students who have also fled East Berlin. They are hoping that the German authorities, possibly with American help, will establish a school of veterinary medicine in West Berlin. For several months, these students and professors have been starving on a shoestring awaiting a decision by the German authorities."

### Italy

**Professor Ascoli's New Booklet.**—Professor Alberto Ascoli, celebrated research pathologist of the University of Milan, writes:

May I, remembering your courtesies, mail you this French translation of a small booklet of mine and tell you that I would appreciate it if you could sponsor its quotation in the *Journal of the American Veterinary Medical Association*.

The translated title is "Prophylactic Antituberculosis Vaccination in Man and in Cattle." The contents brief the present orientation of BCG, particularly in the bovine species, inasmuch as world-wide interest has been aroused in the massive resort of that prophylactic measure by the modern phthisiologist.

The vicissitudes for and against the Calmette-Guerin system since the beginning are faithfully clarified. Boiled down, the pros and cons add up to an acceptance of BCG as a part of scientific public health work as of the present time.

Against bovine tuberculosis, Professor Ascoli, basing his report on personal work, declares that BCG augments resistance, reduces the contagions among exposed animals, and inhibits the generalization of tuberculous lesions. The booklet puts on record the various arbitrary dissenting opinions of note and concludes that published discredits, unsupported by actual field work, have been deterrents to the more rapid development of this vaccination in veterinary medicine.—L.A.M.

### Peru

**Pan American Veterinary Conference.**—The First Pan American Veterinary Conference will be held at the Veterinary College, San Marcos University, in Lima on Oct. 20-26, 1951. The tentative agenda follows.

Section 1.—Diseases of Major Economic Importance.

- a) Foot-and-Mouth Disease.
- b) Internal Parasites.
- c) External Parasites.
- d) Protozoan Diseases.
- e) Poultry Diseases.
- f) Basic consideration in Animal Quarantine.

Section 2.—Public Health and Veterinary Medicine.

- a) Brucellosis.
- b) Tuberculosis.
- c) Hydatidosis.
- d) Rabies.
- e) Meat Inspection and Slaughterhouse Sanitation.

- f) Inspection of Dairy Products.
- g) Organization of the Veterinary Public Health Program.

### Section 3.—Veterinary Education.

- a) Scope of Veterinary Medicine.
- b) Essentials of an Acceptable Veterinary School.
- c) The Veterinary Curriculum.
- d) The Sanitary Education of the Animal Husbandryman.
- e) Training of Public Health Veterinarians.
- f) Distribution of Veterinarians in the Americas.

### Section 4.—Factors Affecting Animal Production.

- a) Genetic Factors.
- b) Nutritional Factors.
- c) Ecologic Factors.
- d) Reproduction in Relation to Production.

### Section 5.—Free Themes.

S/JOSE SANTIVANEZ MORALES, *Dean*.

### Poland



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The Posadowo stud farm in Poland is maintained by the Government Agricultural Estates for the breeding of Arabian half-blood horses, which are considered the most suitable for agricultural needs. Horses in Poland during the Nazi invasion suffered almost as much as the people, and the country is now rebuilding its horse population.

## VETERINARY MILITARY SERVICE

**Increase in Veterinary Corps R.O.T.C. Enrollment.**—Veterinary Reserve Officers Training Corps enrollment for the academic year 1950-1951, in the six veterinary schools participating in the program, shows an increase of 20 per cent over last year's enrollment. Of the 530 veterinary R.O.T.C. students enrolled this year, 56 per cent are veterans.

Six veterinary schools, located at the follow-

ing institutions, participate in this program: Colorado A. & M. College, Fort Collins; Cornell University, Ithaca, N. Y.; Iowa State College, Ames; Kansas State College, Manhattan; Ohio State University, Columbus; and University of Pennsylvania, Philadelphia.

Total R.O.T.C. enrollment in the 76 medical, dental, veterinary, and pharmacy schools participating in the programs increased by 20 per cent to 7,372 students. Pharmacy units made the largest gain of 53 per cent with 503 students this year; veterinary medical schools were next, followed by dental schools with 19 per cent and 1,451 students, and medical units with 18 per cent and 4,888 students.

Veterans comprise 67 per cent of the total R.O.T.C. enrollment in the four categories, a decrease of only 9 per cent from the preceding year. Nonveterans exceed veterans only in the Pharmacy Corps units, where the ratio is 45 per cent for veterans.

s/MAJOR GENERAL R. W. BLISS,  
Army Surgeon General.

## BIRTHS

Mr. and Mrs. W. E. Pearson (Geraldine Raymer, MSC '47), Grand Rapids, Mich., announce the birth of a daughter, Barbara Sue, on Sept. 10, 1950.

Dr. (OSU '50) and Mrs. Donald A. Price, Sonora, Texas, announce the birth of a daughter, Karen, on Nov. 12, 1950.

Captain (TEX '45) and Mrs. Samuel K. Kirk, Modesto, Calif., announce the birth of a son, Gerald Leroy, Nov. 27, 1950.

Dr. (KSC '46) and Mrs. Alex B. Stone, Moline, Ill., announce the birth of their second child, Anne Marsha, on Dec. 8, 1950.

Dr. (TEX '41) and Mrs. K. Maynard Curts, Kansas City, Kan., announce the adoption, on Dec. 18, 1950, of John Maynard Curts who was born May 30, 1950.

Dr. (KSC '38) and Mrs. Merle L. Farris, Morristown, Tenn., announce the arrival of a daughter, Sharon Mack, on Dec. 23, 1950.

## DEATHS

**G. F. Babb** (KCVC '10), Kansas City, Kan., died Sept. 19, 1950. Dr. Babb had retired several years ago.

**★James H. Cooper** (KCVC '13), 63, Laredo, Texas, died Oct. 30, 1950. Dr. Cooper was admitted to the AVMA in 1937.

**★Edgar A. Crossman** (HAR '91), 80, Cambridge, Mass., died Nov. 21, 1950. Dr. Crossman was admitted to the AVMA in 1918. He was a member of the Massachusetts Veterinary Medical Association, and had served as its president during 1926 and 1927, and was also

a member of the National Association of Federal Veterinarians. He is survived by his widow, *née* Delight Strong.

**Col. Frederick Foster**, 90, San Antonio, Texas, died Nov. 25, 1950. Colonel Foster was a veteran of thirty-seven years of Army service prior to his retirement in 1923.

**★George E. Golden** (MCK '07), 73, Huntington Park, Calif., died Nov. 8, 1950. Dr. Golden entered the service of the U.S. Bureau of Animal Industry in 1907 and retired in 1947. Among other assignments were those to the stockyards in Sioux City, Iowa, and Los Angeles, Calif. His wife, the former Mary Vanderburgh, died several years ago. Three daughters survive. Dr. Golden was admitted to the AVMA in 1918.

**★Alfred H. F. Harmening** (CVC '17), 56, Des Plaines, Ill., died Oct. 22, 1950. Dr. Harmening was admitted to the AVMA in 1918.

**Jay L. Heitt** (CVC '20), Paradise, Calif., died in 1950. Dr. Heitt had retired some time ago due to ill health.

**★C. H. Hoekstra** (CVC '17), 54, South Omaha, Neb., died Oct. 11, 1950, after an illness of several months. Shortly after receiving his D.V.M. degree, Dr. Hoekstra became veterinary representative of the Western Weighing Association, a position he held until his death. He also developed an extensive private practice and was known widely for his kindly and efficient manner. He was a member of the Nebraska Veterinary Medical Association and of the AVMA, having been admitted to membership in the latter Association in 1919. He is survived by his widow, *née* Betsye Barber, and two daughters.

**★Ernest W. Hogg** (UP '14), 60, Wilkes-Barre, Pa., died Nov. 15, 1950. Dr. Hogg was a member of the AVMA for more than thirty years. He is survived by his widow, *née* Hilda Mann.

**Joseph H. Luallen** (CIN '18), Paris, Ky., died during the summer of 1950. Dr. Luallen was a general practitioner.

**★James C. McDaniel** (IND '09), Elwood, Ind., died Nov. 20, 1950. Dr. McDaniel was a member of the AVMA for thirty-eight years.

**★Frank D. McMahon** (CVC '20) 56, Phoenix, Ariz., died Nov. 25, 1950. Although Dr. McMahon had been in ill health for several years, he was host to the U.S. Livestock Sanitary Association convention in Phoenix early in November. He was a veteran of two years overseas service during World War I, during which he was gassed. He suffered a breakdown in 1927 while operating an animal hospital in Jerseyville, Ill., and went to Arizona to recuperate. He operated a small animal hospital until 1944, at which time he sold it to Dr. John Micuda. Dr. McMahon is survived by his widow, Pauline, and a sister, both of Phoenix. He was admitted to the AVMA in 1933.

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## An'Related Topics

### WATCH YOUR ENGLISH AND OURS

#### Abbreviations

AVMA editors attempt to avoid the use of abbreviations that are not as universally clear to readers as the spelled out words. In instances where a less usual abbreviation is necessary, the first time the abbreviation is used, it is written in parentheses after the entire word or words.

Abbreviations, though quite understandable, are not used in sentences thus:

Wrong.—He was a famous M.D.

Right.—He was a famous physician.

Wrong.—They settled in Ill.

Right.—They settled in Illinois.

Wrong.—The conference was held in the U.S.

Right.—The conference was held in the United States.

As to general abbreviations commonly used in English writings, the unabridged Webster's dictionary catalogues over 5,000, varying from common to rare, exclusive of many more occupational vocabularies. Moreover, there is an endless chain of new ones coming into general use. *The only sensible thing for the veterinary medical writer to do is to see that every abbreviation is completely identified in the text of the article.* Though the more erudite reader, for example, would not knit his brow over p.p.d. (purified protein derivative), c.m. (*causa mortis*—cause of death), m.o.p. (mother of pearl), and a thousand others, they make the less informed reader hesitate. Besides, B.C. can mean before Christ, bachelor of chemistry, bachelor of commerce, and British Columbia. In the lower case, this abbreviation (b.c.) can mean bass clarinet or bad character (British Army). Or, vet. may signify veteran as well as veterinarian; U.S.A. may mean Union of South Africa, United States Army, or United States of America. And, who can decipher ACE, WHO, FFA, ERP, CIO, PAC, ITO, and hundreds of other unpunctuated abridgements annoying to both the

#### COMING MEETINGS

Notices of Coming Meetings must be received by 4th of month preceding date of issue

Virginia State Veterinary Medical Association. Winter meeting. Hotel Roanoke, Roanoke, Va., Jan. 29-31, 1951. Harry K. Royer, 1404 Main Street, Lynchburg, Va., secretary.

Illinois State Veterinary Medical Association. Annual meeting. Hotel Sherman, Chicago, Ill., Jan. 30-Feb. 1, 1951. A. G. Misener, 6448 North Clark St., Chicago 26, Ill., secretary.

Minnesota State Veterinary Medical Society. Annual meeting. Hotel Nicollet, Minneapolis, Minn., Jan. 31-Feb. 2, 1951. B. S. Pomeroy, School of Veterinary Medicine, University of Minnesota, St. Paul 1, Minn., secretary.

New Jersey, The Veterinary Medical Association of. Annual meeting. Hotel Hildebrandt, Trenton, N.J., Feb. 8-9, 1951. J. R. Porteus, P.O. Box 938, Trenton, N.J., secretary.

West Virginia Veterinary Medical Association. Annual meeting. Hotel Greenbrier, White Sulphur Springs, W. Va., Feb. 11-12, 1951. James P. Bailey, Bluefield, W. Va., secretary.

Alabama Veterinary Medical Association. Annual meeting. Whitley Hotel, Montgomery, Ala., Feb. 16-17, 1951. I. S. McAdory, 301 E. Magnolia, Box 410, Auburn, Ala., secretary.

Massachusetts Veterinary Association. Monthly meeting. Hotel Beaconsfield, Brookline, Mass., Feb. 28, 1951. C. Lawrence Blakely, 180 Longwood Ave., Boston 15, Mass., secretary.

American Animal Hospital Association. Annual meeting. Chalfonte-Haddon Hall, Atlantic City, N. J., May 2-5, 1951. Wayne Riser, 5335 Touhy Ave., Skokie, Ill., secretary.

Texas Veterinary Conference. School of Veterinary Medicine, A. & M. College of Texas, College Station, Texas, June 7-8, 1951. R. D. Turk, chairman, conference committee.

North Carolina State Veterinary Medical Association. Annual meeting. Hendersonville, N. Car., June 8-9, 1951. J. H. Brown, Tarboro, N. Car., secretary.

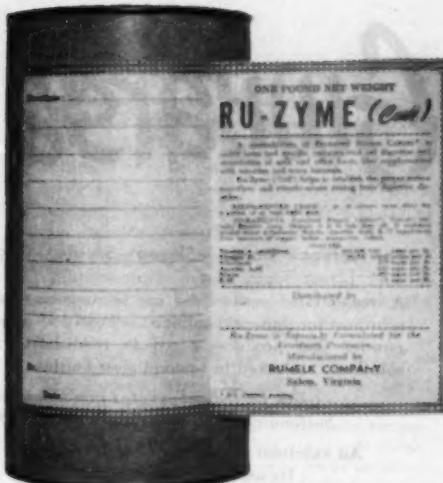
American Society for the Study of Sterility. Annual meeting. Ritz-Carlton Hotel, Atlantic City, N.J., June 8-10, 1951. Walter W. Williams, 20 Magnolia Terrace, Springfield 8, Mass., secretary.

(Continued on p. 26)

(Continued on p. 26)

# Announcing RU-ZYME

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(WATCH YOUR ENGLISH — *continued from p. 24*)

readers of scientific and secular literature? To keep usage uniform, however, there are certain abbreviations in veterinary medical writings that must be recognized. These will be discussed next month.

(To be continued)

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(COMING MEETINGS — *continued from p. 24*)

Oklahoma conference for veterinarians, June 11-12, 1951, veterinary clinic, Oklahoma A. & M. College, Stillwater, Okla. J. W. Wolfe, Oklahoma A. & M. College, School of Veterinary Medicine, Stillwater, Okla., chairman.

Massachusetts Institute of Technology. Special course in food technology. Massachusetts Institute of Technology, Cambridge 35, Mass., June 25 to July 13, 1951. Professor Walter H. Gale, director of the summer session.

American Veterinary Medical Association. Annual meeting. Milwaukee Auditorium, Milwaukee, Wis., Aug. 20-23, 1951. J. G. Hardenbergh, American Veterinary Medical Association, 600 S. Michigan Ave., Chicago 5, Ill., executive secretary.

### Regularly Scheduled Meetings

Bay Counties Veterinary Medical Association, the second Tuesday of each month. Russell P. Cope, 1205 San Pablo Ave., Berkeley 6, Calif., secretary.

Cedar Valley Veterinary Association, the second Monday of each month (except July and August) at Black's Tea Room, Waterloo. F. E. Brutsman, Traer, Iowa, secretary.

(Continued on p. 28)



# The PARD "4-STAR" STORY



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The scores in the table are based on actual amounts. The food scoring highest in a nutrient was given 10. A star indicates adequacy for perfect nutrition, according to standards established after years of research by Swift scientists and proven beyond doubt by feeding tests on generations of dogs.

This study does not reveal differences in *quality* of nutrients which, if demonstrated, would be still more favorable to PARD.

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### (COMING MEETINGS — *continued from p. 26*)

Central California Veterinary Medical Association, the fourth Tuesday of each month. Thomas Eville, Route 1, Box 136H, Fresno, Calif., secretary.

Chicago Veterinary Medical Association, the second Tuesday of each month. Robert C. Glover, 1021 Davis St., Evanston, Ill., secretary.

East Bay Veterinary Medical Association, bi-monthly, the fourth Wednesday. O. A. Soave, 5666 Telegraph, Oakland, Calif., secretary.

Fayette County Veterinary Association, Iowa, the third Tuesday of each month, except in July and August, at Pa and Ma's Restaurant, West Union, Iowa. Donald E. Moore, Box 178, Decorah, Iowa, secretary.

Greater St. Louis Veterinary Medical Association. Ralston-Purina Research Building, St. Louis, Mo., the first Friday in February, April, June, and November. W. C. Schofield, Dept. of Animal Pathology, Ralston-Purina Co., St. Louis 2, Mo., secretary.

Houston Veterinary Medical Association, Houston, Texas, the first Thursday of each month. Edward Lepon, Houston, Texas, secretary-treasurer.

Illinois Valley Veterinary Medical Association, the second Wednesday of even-numbered months. R. A. Case, 400 S. Garden St., Peoria, Ill., secretary.

Indiana Tenth District Veterinary Medical Association, third Thursday of each month. L. A. Snider, New Palestine, Ind., secretary.

Jefferson County Veterinary Society of Kentucky, Inc., the first Wednesday evening of each month, in Louisville or within a radius of 50 miles. F. M. Kearns, 3622 Frankfort Ave., Louisville 7, Ky., secretary.

Kansas City Veterinary Medical Association, the third Tuesday of each month, in the Hotel Continental, 11th and Baltimore, Kansas City, Mo. K. M. Curts, 70 Central Ave., Kansas City 18, Kan., secretary.

Keystone Veterinary Medical Association, the Penn-Sheraton Hotel, 39th and Chestnut St., Philadelphia, Pa., on the fourth Wednesday of each month. Raymond C. Snyder, 39th and Woodland Ave., Philadelphia 4, Pa., corresponding secretary.

Maricopa County Veterinary Association, the second Tuesday of each month. Charles J. Prchal, 1722 East Almeria Road, Phoenix, Ariz., secretary.

Michiana Veterinary Medical Association, the second Thursday of each month. Write R. W. Worley, secretary, 3224 L.W.W., South Bend, Ind., for location.

Michigan, Southeastern Veterinary Medical Society. Herman Kiefer Hospital, Detroit, Mich., the second Wednesday of each month from October through May.

Milwaukee Veterinary Medical Association. Wisconsin Humane Society, 4150 N. Humboldt Ave.

*(Continued on p. 30)*

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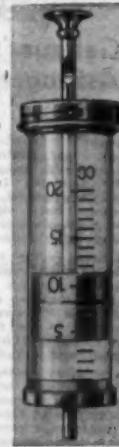
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Milwaukee, Wis., the third Tuesday of each month. Kenneth G. Nicholson, 2161 N. Farwell Ave., Milwaukee, Wis., secretary.

Monterey Bay Area Veterinary Medical Association, the third Wednesday of each month. C. Edward Taylor, 2146 South Broad St., San Luis Obispo, Calif., secretary.

New York City Veterinary Medical Association. Hotel Statler, New York, N. Y., the first Wednesday of each month. C. R. Schroeder, Lederle Laboratories, Inc., Pearl River, N. Y., secretary.

North San Joaquin Valley Veterinary Medical Association, the fourth Wednesday of each month. V. E. Graff, Oakdale, Calif., secretary.

Orange Belt Veterinary Medical Association, the second Monday of each month. James R. Ketchersid, 666 East Highland Avenue, San Bernardino, Calif., secretary.

Orange County Veterinary Medical Association, bimonthly, the second Tuesday of each month. J. H. Bower, P. O. Box 355, Santa Ana, Calif., secretary.

Peninsula Veterinary Medical Association, the third Monday of each month. E. W. Paul, Box 866, Redwood City, Calif., secretary.

Pima County (Arizona) Veterinary Medical Association, the third Wednesday of each month, in Tucson. R. W. Adam, 2103 S. 6th Ave., Tucson, Ariz., resident secretary.

Portland (Oregon) Veterinary Medical Association, the second Tuesday of each month, in the Auditorium of the Upjohn Company. L. G. Nicholson, 8415 S.E. McLoughlin Blvd., Portland 2, Ore., secretary.

Redwood Empire Veterinary Medical Association, the third Thursday of each month. John E. Wion, 3164 Redwood Highway South, Santa Rosa, Calif.

Roanoke-Tar (N. Car.) Veterinary Medical Association, the first Friday of each month, 7:00 p.m., in Rocky Mount. G. L. Gilchrist, Edenton, N. Car., secretary.

Sacramento Valley Veterinary Medical Association, the fourth Friday of each month. R. C. Goulding, 11511 Capitol Avenue, Sacramento, Calif., secretary.

San Diego County Veterinary Medical Association, the fourth Tuesday of each month. R. J. McFarland, 3621 Jewell St., San Diego 9, Calif., secretary.

Southern California Veterinary Medical Association, the third Wednesday of each month. D. H. McDole, 8674 Melrose Ave., Los Angeles 46, secretary.

South Florida Veterinary Society, the third Tuesday of each month, 8:00 p.m., at the Peckway Skeet Club, Robert P. Knowles, 2936 N.W. 17th Ave., Miami, Fla., secretary.

Tulsa Veterinary Medical Association, the third

*(Continued on p. 32)*

## "What's New in Veterinary Science?"

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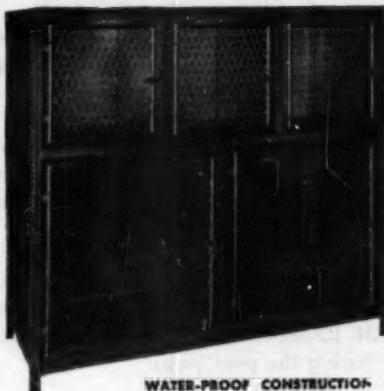
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## Street Diagram of Milwaukee, Wisconsin, Showing Hotels Selected for AVMA Meeting and Their Proximity to the Auditorium

Note: The section shown on this diagram lies in the southeastern part of Milwaukee and represents only a small portion of the city's total area.



1. Antlers
2. Medford
3. Pfister
4. Plankinton House
5. Schroeder
6. Wisconsin

# HOTEL RESERVATIONS — MILWAUKEE CONVENTION

**Eighty-Eighth Annual Meeting, AVMA, August 20-23, 1951**

Selected hotels listed below are all near the Milwaukee Auditorium, where convention activities will be centered. Fill out reservation form and mail it directly to hotel of your first choice. If that hotel is filled, it will forward your request to another hotel you have named. Confirmation will come from hotel which accepts reservation. Since this is an auditorium convention, there will be no headquarters hotel.

## HOTELS AND RATES\* — SEE LOCATIONS ON OPPOSITE PAGE

Hotel	Single	Double (with Double Bed)	Double (with Twin Beds)
1. Antlers .....	\$2.25-5.00	\$3.50-6.00	\$6.00
2. Medford .....	3.00-4.00	4.25-5.25	6.00-7.00
3. Pfister .....	3.50-8.00	6.50-10.00	7.00-12.00
4. Plankinton House .....	3.50-6.00	6.00-8.00	6.50-9.00
5. Schroeder .....	3.75-10.00	6.50-10.00	8.00-12.00
6. Wisconsin .....	3.50-7.50	5.50-9.00	7.50-10.00

\*Information about availability and rates of suites may be obtained on request to hotels of your choice. See reservation form below.

Cut Off Here

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Please make reservations indicated below:

**(Three choices MUST be shown.)**

First choice hotel .....

Second choice hotel .....

Third choice hotel .....

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Room will be occupied by:

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Name ..... City and State .....

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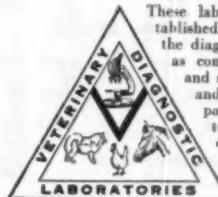
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(Continued on p. 38)

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(CLASSIFIED ADS—continued from p. 36)

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(Continued on p. 40)

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(CLASSIFIED ADS—continued from p. 38)

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